CONSTRUCTION NEWS

PERSONALS, ENGINEERING SOCIETIES, INDUSTRIAL NOTES, TRADE PUBLICATIONS.

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PERSONAL.

Mr. John Dyer, Jr., builder, has removed to the Albany Trust Co. Building, Albany, N. Y.

Mr. Howard R. Smart, of Lincoln, R. I., has been appointed Superintendent of Streets of Attleboro, Mass.

Messrs. George N. Merrill & Co., of Springfield, Mass., have been chosen as Engineers for the town of West Springfield.

Mr. William D. English has been elected Vice-President and General Manager of Contra Costa Water Co., San Francisco, Cal.

Mr. John W. Fawcett, Engineer of the Mahoning Division of the Erie R. R., has resigned to engage in the railroad business in Washington.

Mr. Henry Franklin Bascom, Assoc. M. Am. Soc. C. E., of the firm of Lehr & Bascom, was elected City Engineer of Allentown, Pa., on April 21.

Mr. P. McL. Davidson has been appointed Superintendent of Streets, and Mr. A. O. Peterson, Superintendent of Water-Works of Galesburg, Ill.

Mr. John F. Casey has been appointed Superintendent of the Panuco Division of the Mexican Central Ry., to take the place of Mr. R. Honey, Jr., resigned.

Mr. Calvin W. Pool, Rockport, and Mr. Malcom Rich have opened up an office in the Bradford Building, Gloucester, Mass., as civil engineers and surveyors.

Mr. F. C. Richards has resigned as Superintendent of Construction of the Baltimore & Ohio R. R., to accept a similar position with H. S. Kerbaugh, Inc., contractor, at Harrisburg, Pa.

Mr. Henry C. Smith, Supervisor of the Philadelphia & Reading Ry. at Bridgeport, Pa., has been appointed Engineer of the Philadelphia Division, succeeding Mr. J. S. Caldwell, resigned.

Mr. George W. Lee, Engineer for Sundstrom & Stratton, contractors, of 143 Liberty St., New York, and Miss Rhoda Jane Hoyt, of Washington, D. C., were married in Washington on April 22.

Mr. Charles J. Poetsch, City Engineer, and Mr. V. J. Schoenecker, Commissioner, have been chosen President ex-officio and Secretary, respectively, of the Board of Public Works of Milwaukee, Wis.

Mr. W. L. E. Mahon, Engineer, formerly with the Brown Hoisting Machine Co., Cleveland, O., is now associated with the Portsmouth Foundry & Machine Works, of Portsmouth, O., as Superintendent.

Mr. Frank A. Butler, Jr., heretofore connected with the office of the City Engineer of Nashville, Tenn., in a professional capacity, has accepted a position with Guild & Co., contractors, of Chattanooga, Tenn.

Mr. Charles Russell, formerly Superintendent of the Rocky Mountain Division of the Northern Pacific Ry., has been appointed Superintendent of the Illinois Division of the Atchison, Topeka & Santa Fe Ry.

Mr. Warren H. Knowlton has been appointed Principal Assistant Engineer of the Western District of the New York Central R. R. in charge of location and construction work, with headquarters at Syracuse, N. Y.

Mr. R. R. Govin, of New York; Mr. James H. Eckels, of Chicago and Mr. Marshall E. Sampsell, of Chicago, are appointed Receivers of the Chicago Union Traction Co., the North Chicago St. Ry. Co., and the West Chicago St. R. R. Co.

Mr. Harry F. Lincoln has been elected City Engineer of St. Albans, Vt., and Mr. Chas. Turner is elected Superintendent of Streets. Mr. Lincoln resigns the position of Superintendent of the St. Albans St. Ry. to accept the new office.

Mr. J. W. Leonard, General Superintendent of the Central Division of the Canadian Pacific R. R., at Winnipeg, Man., has been appointed Assistant General Manager of that company's lines west of Lake Superior, with office at Winnipeg, Man.

Mr. W. J. Murphy, General Manager of the Cincinnati, New Orleans & Texas Pacific Ry., has been appointed Vice-President of that road, and will be succeeded by Mr. W. A. Garrett, until recently General Superintendent of the Philadelphia & Reading R. R.

Mr. R. S. Payne, Resident Engineer of the Tennessee Construction Co., has resigned, and Mr. E. G. Poss, formerly on No. 1 residency, is appointed his successor. Mr. Poss is succeeded by Mr. A. D. Wilcox, Assistant Engineer to Mr. W. H. Taylor, Resident Engineer at Hopkinsville, Ky.

Mr. E. Blanchard, Division Engineer Fifth Division of the Tennessee Construction Co., has resigned and Mr. E. J. Kennedy, Division Engineer of the Third and Fourth, has had his territory extended over the Fifth Division. Mr. Blanchard goes to the Crawford extension of the Tennessee Construction Co.

Mr. Joseph Caccavajo, Consulting Civil Engineer, formerly Chief Engineer of the Associated Engineering Co., New York, has been engaged by a number of property owners along the line of the Rapid Transit subway in Broadway, Manhattan, and in Brooklyn, and has opened an office at 277 Broadway, New York, to carry on his practice.

The Stanley Electric Mfg. Co., of Pittsfield, Mass., has elected the following new officers: Mr. W. Murray Crane, Pittsfield, President; Dr. F. A. C. Perrine, Pittsfield, First Vice-President; Mr. M. D. Barr, New York, Second Vice-President; Mr. S. N. Hammill, New York, Third Vice-President; Mr. W. W. Gamwell, Pittsfield, Treasurer; Mr. W. S. Westover, New York, Secretary.

Mr. Daniel W. Hyde, formerly of the firm of Hyde & Sherry, civil engineers and surveyors, which firm was dissolved on April 1, 1903, and Mr. Edgar P. Sellew, until recently in charge of the triangulation work of the Board of Survey of the City of Boston, have associated themselves under the firm name of Hyde & Sellew, civil engineers and surveyors, with offices at 15 Court St., Boston, Mass.

Mr. A. J. Cassatt, President of the Pennsylvania R. R., has appointed the following as a committee to confer with him regarding the New York tunnel: Messrs. Theodore N. Ely, Chief of Motive Power; W. H. Baldwin, President of the Long Island R. R.; S. D. Newhall, Purchasing Agent of the Pennsylvania; A. W. Gibbs, General Superintendent of Motive Power, and A. S. Vogt, Chief Mechanical Engineer, both of the Pennsylvania R. R.

Mr. Burdett Moody, M. Am. Soc. C. E., for the past 13 years in charge of the Engineer's Office of the Homestake Mining Co., of the Black Hills, has resigned to go into private practice, having become associated with Mr. Henry Schnitzel, for 10 years engaged in mining in the Black Hills, S. Dak., under the firm name of Schnitzel & Moody, civil and mining engineers, and located at No. 5 South Bleeker St., Lead, S. Dak.

Messrs. J. T. Tatlow, Manager of the Locomotive Department; G. Banks, Superintendent of Freight Traffic; John Wharton, Manager of Freight Traffic, and J. F. Dale, Chief Accountant of the Lancashire & Yorkshire Ry., arrived on board the steamship "Celtic" from Liverpool on April 24. The party comes for the purpose of studying the railway situation in the United States and especially to look into the methods of administration in the various departments in which they are interested. They are now stopping at the Waldorf-Astoria Hotel, New York.

The following changes in the personnel of the Chicago, Milwaukee & St. Paul Ry. will take effect May 1: Mr. J. N. Barr promoted from General Superintendent to Assistant to the President; Mr. D. L. Bush, Assistant General Superintendent at Milwaukee, to be General Superintendent; Mr. H. B. Earling, Superintendent of the Chicago and Council Bluffs Division, to be Assistant General Superintendent at Milwaukee, Wis.; Mr. J. H. Foster, Superintendent of the River Division, transferred to the Chicago-Council Bluffs Division; Mr. W. S. Cooper, Trainmaster at La Crosse, Wis., to be Superintendent of the River Division.

OBITUARY.

Mr. Bailey H. Hitchcock, Civil Engineer, died in Toledo, O., on April 23. He was born in Hanson, Mass., in 1829, and made one of the earliest surveys of the Hoosac Tunnel and of other Eastern railroads.

Mr. H. S. Dewey, former civil engineer and railroad man, died at Jefferson City, Mo., on April 22, aged 73 years.

Mr. Edward Trewlett Carter, Editor of "The Electrician," of London, Eng., died at Clevedon, Somerset, Eng., on April 16.

Col. William Bailey, at one time President of the Kansas City & Southern R. R., died from heart disease at his home in New York on April 24. He gained his military title in the Civil War as Colonel of the 10th Missouri Volunteers.

Mr. D. A. Crage, a well-known contractor of Buffalo, N. Y., died at his home in that city on April 21. Mr. Crage was born in San Fele, Italy, 50 years ago, and had resided in Buffalo for 30 years. He was a member of the contracting firm of Crage & Tench.

Mr. Charles A. McAlpine, Superintendent of the Providence Division of the New York, New Haven & Hartford R. R., died last week at his home in Hyde Park, Mass., of cancer of the stomach. He was born in 1858 and entered railroading on the Boston, Clinton & Fitchburg road.

Mr. Victor M. Clement, M. Am. Inst. M. E., Consulting Mining Engineer of Salt Lake City, Utah, died at Saltillo, Mex., on April 26, as a result of a surgical operation. At the time of his death Mr. Clement was examining the Bolanitas property in Mexico for Boston interests. He was associated with Mr. John Hays Hammond in South Africa, and was captured by the Boers in the Jameson raid.

Mr. Irving M. Scott, head of the Union Iron Works of San Francisco, Cal., died at his residence in that city on April 28 from heart disease from which he had been suffering for the past 12 months. Mr. Scott was widely known as "the man who built the Oregon," the United States battleship which made the record-breaking trip from San Francisco to Cape Horn to Key West, and figured prominently in the battle of Santiago de Cuba, in the late Spanish-American War. This vessel, and many other ships for the navy, was constructed at the Union Iron Works under Mr. Scott's direction. He was born in Maryland in 1837, and started his business career as a draftsman, and in 1858 was engaged in that capacity by the Union Iron Works. Four years later he resigned to engage in manufacturing, but later returned to the Union Iron Works, where he became Superintendent, and upon the retirement of Col. Peter Donahue was assigned to the management of the business.

Mr. S. Morgan Smith, President of the S. Morgan Smith Co., York, Pa., manufacturers of water wheels, whose death in Los Angeles, Cal., on April 12, was noted in a recent issue of Engineering News, was born in Davie county, North Carolina, in 1839, and was the first son of John W. and Sarah P. Smith, who were also born in the same county in 1811 and 1816 respectively. Mr. Smith was educated in public schools and at the Moravian College, at Bethlehem, Pa., from which institution he graduated in 1861. His college preparation was for the ministry, and from 1861 to 1866 he was pastor of the Moravian Church at York. In 1864 he was made Chaplain of the 200th Pennsylvania Volunteers, and served until the end of the Civil War. In 1866 he went to Canal Dover, O., and had charge of a congregation there until 1871, when on account of serious throat affliction he was forced to quit ministerial work. He returned to York, Pa., and became interested in the perfection of a washing machine which he had invented and patented, and four years later became interested in the manufacture of water wheels. His first wheel was known as the "Success." In 1892 he engaged in the manufacture of the McCormick water wheel, which gained him a wide reputation. He was a member of General John Sedgwick G. A. R. Post No. 37, and for a number of years President of the Society for the Prevention of Cruelty to Animals; President of the York County Sunday School Society; President of the Board of Elders and Trustees of the Moravian Church for more than 30 years, and prominently connected with various other church and benevolent institutions, besides being President of the Atlanta Water & Electric Power Co. In 1862 he married Miss Emma R. Fahs, of York. He is survived by his widow and six children.

ENGINEERING SOCIETIES.

COMING MEETINGS.

NATIONAL ELECTRIC LIGHT ASSOCIATION.
May 26, 27 and 28. Convention at Chicago, Ill. Secy., James B. Cahoon, 136 Liberty St., New York city.

AMERICAN SOCIETY OF CIVIL ENGINEERS.
June 8. Annual convention at Asheville, N. C. Secy., C. W. Hunt, 220 W. 57th St., New York.

AMERICAN FOUNDRYMEN'S ASSOCIATION.
June 9, 10, 11. Annual convention at Milwaukee, Wis. Secy., Richard Moldenke, P. O. Box 432, New York city.

INTERNATIONAL ASSOCIATION OF CAR ACCOUNTANTS AND CAR SERVICE OFFICERS.
June 17, 18. Annual meeting at Quebec, Canada. Secy., L. G. Corcoran, Buffalo, N. Y.

AMERICAN RAILWAY MASTER MECHANICS' ASSOCIATION.
June 17, 18, 19. Annual convention at Mackinac Island, Mich. Secy., J. W. Taylor, Rookery Building, Chicago.

MASTER CAR BUILDERS' ASSOCIATION.
June 22, 23, 24. Annual convention at Mackinac Island, Mich. Secy., J. W. Taylor, Rookery Building, Chicago.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.
June 22 to 26. Annual meeting at Saratoga, N. Y. Secy., Prof. F. R. Hutton, 12 West 31st St., New York city.

AMERICAN WATER-WORKS ASSOCIATION.
June 23 to 26. Annual meeting at Detroit, Mich. Secy., J. M. Diven, Elmira, N. Y.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.
June 29, July 2. Annual convention at Niagara Falls, N. Y. Secy., R. W. Pope, 95 Liberty St., New York.
SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION.
July 1, 2, 3. Annual convention at Niagara Falls, N. Y. Secy., C. A. Waldo, Purdue University, Lafayette, Ind.
AMERICAN PARK AND OUTDOOR ART ASSOCIATION.
July 7, 8, 9. Annual meeting at Buffalo, N. Y. Secy., C. M. Robinson, Rochester, N. Y.
AMERICAN STREET RAILWAY ASSOCIATION.
Sept. 2 to 4. Annual convention at Saratoga Springs, N. Y. Secy., T. C. Penington, 2020 State St., Chicago, Ill.

RAILWAY SIGNALING CLUB.—A regular meeting will be held at the Great Northern Hotel, Chicago, at 2 p. m. on May 12. The question to be discussed is "In the preparation of time tables what consideration is given to the block-signal capacity of the line."—Secy., B. B. Adams, 83 Fulton St., New York.

AMERICAN RAILWAY ASSOCIATION.—The spring meeting of this association was held at the Waldorf-Astoria Hotel, New York, on April 22, with about 80 roads represented. The election of officers resulted in the re-election as president of Mr. A. W. Sullivan (I. C. Ry.). It was decided to hold the next meeting (Oct. 28, 1903) at Richmond, Va.

WESTERN RAILWAY CLUB.—At the meeting held at the Auditorium Hotel, Chicago, on April 21, a paper on "Railroad Repair Shop Design and Equipment" was read by Mr. George A. Damon, Managing Engineer of the Arnold Electric Power Station Co. The paper, of which we shall publish an abstract, outlined the general plan of a proposed plant, which brought out a very interesting and practical discussion.

SCRANTON ENGINEERS' CLUB.—At a meeting of the club, held April 2, 1903, Mr. J. G. Sanderson, member, read a paper on the subject of municipal engineering in connection with local improvements. In discussing the subject of drainage and sewerage, the natural water courses anterior to the grading of streets and building of a city were described, and attention was called to the fact that many of these water courses still exist in confined and contracted channels, and are expected to care for the surface drainage in addition to that discharged into them from sewers. The use of small separate sewers for surface drainage was recommended. The condition of the streets of Scranton was discussed and the question of a pavement for streets in the resident part of the city was considered. The pavement known as tar macadam was described and the features which appear to recommend it were pointed out. The disfigurement of streets by poles, wires and cables connected with electric transmission was referred to, and a remedy suggested. The subject of landscape engineering as relating to municipal improvements was mentioned, and it was suggested that by giving some attention to this an interest might be created that would lead to practical improvements of the parks and the beautifying of the city generally.—Secy., A. E. Lister, Scranton, Pa.

MUNICIPAL ENGINEERS OF THE CITY OF NEW YORK.—On April 22 this society held a formal meeting at the house of the American Society of Mechanical Engineers, 12 W. 31st St., New York City. As we noted several weeks ago the society formed and adopted a constitution at a previous meeting, but the election of permanent officers was deferred until this time. A nominating committee presented a list of nominations, which on formal ballot was found to be adopted. The officers thus elected are: President, Mr. Nelson P. Lewis; Vice-Presidents, Messrs. O. F. Nichols and S. C. Thompson; Secretary, Mr. Wisner Martin; Treasurer, Mr. A. S. Tuttle; Directors for one year, Messrs. Rudolph Hering, Robert Ridgeway, W. S. Dalrymple, R. R. Crowell, Frederick Skene; Directors for two years, Messrs. Geo. S. Rice, M. Raymond, H. R. Asserson, B. M. Wagner, T. S. Oxholm; Directors for three years, Messrs. C. B. J. Snyder, John C. Walt, E. A. Miller, Geo. W. Tillson, and Frederick Greiffenberg.

A paper was read by Mr. Nelson P. Lewis on the subject "The Building of Parks and Parkways in New York City." It was very fully illustrated with lantern views and was highly interesting. While the author gave little statistical data and merely touched on the engineering side of his theme, he succeeded in sketching a striking picture of the nature and importance of modern park work. Introducing his remarks with a reference to the ancient age of the park idea, which he traced back to the Egyptians, after whom the Greeks and Romans (the latter particularly) developed great systems of parks, he referred to the recrudescence of the park idea under the French kings of the Renaissance period. This led to a comparison between the park system of Paris (which is preëminent among European cities in this matter) and of the systems developed in some eastern American cities, New York, Boston, and Washington. It appeared that New York's park area, especially when compared with that of Paris, is very small. The speaker then outlined the park system of New York, beginning at the Battery and going north to Pelham Bay Park. The very recent date of Battery Park's construction, hardly more than 30 years ago, and the virtual destruction of City Hall Park by the building of the post office, were emphasized. Central Park was begun in 1857 and was to a great extent completed within the following two years. A good idea was given of the opposition to its construction as well as of the remarkable effects which the building of the park had upon the neighboring property values. Passing north, the great parks of Bronx borough, not yet completed, were described. An extensive system of parkways connecting them is of more recent inception, but when completed will form a magnificent series of drives. The speaker's remarks made clear the importance of such parkways in heightening the effectiveness and value of parks.

Some of the details incidental to park building were discussed. It was especially emphasized that the engineer is by his training usually ill-fitted for park work, being too much inclined toward right lines, angles and regular curves. The importance of the accessibility of parks, in the matter of transportation facilities, was pointed out, but the speaker held strongly for no transportation lines entering parks where possible, and in no case a line crossing park drives or paths at grade.

Throughout his paper, the speaker laid stress on the objects of a park, depending upon its location, its nature, etc. Many parks are mainly open spaces in the city, bringing in light and air, at the same time forming a resting place and promenade. Such parks, of which New York has many, are highly important, and large sums are often expended to construct them where they are most needed, as when a great square of tenements was entirely wiped out at Mulberry Bend and a park constructed. Some parks are intended chiefly as playgrounds; for instance, Seward Park and the uncompleted De Witt Clinton Park. The large parks, however, are intended to bring the country into the city, giving the public an opportunity to get away from everything that suggests city life. In such parks Nature should be interfered with as little as possible in laying out the roads and paths, and the work of the gardener must be little in evidence.

AMERICAN INSTITUTE OF ELECTRICAL ENGINEERS.—At the regular meeting of April 24, held at the house of the American Society of Mechanical Engineers, 12 W. 31st St., New York city, the general subject of Central Station Development was discussed. Three papers on this subject were presented, as follows: "Economical and Safe Limits in the Size of Central Stations," by Mr. H. A. Lardner; "Safety Devices in Central Stations and Substations," by Mr. Philip Torchio; and "Multiple versus Independent Operation of Units and Central Stations," by Mr. Peter Junkersfeld. Mr. Lardner analyzed the factors that go to determine the size, location and nature of central stations, showing how these had operated to bring into favor the very large power station. Of these factors the necessity of locating the station convenient to cheap water and coal supply, and the economy of operation in the large station, are the most important. Economy in operation consists of three main parts: the steam economy of large engines, the general station economy due to minimizing first cost, general expenses and unproductive labor, and the electrical economy from the better load factor of large stations, which is due to the superposition of all kinds of load with their different hours of maximum demand. The author then showed that each of these items was of less importance than is often thought, while in many cases there are several equally favorable locations for power stations so that the problem is not restricted to one site. He then pointed to the disadvantage of large stations in their greater liability to interruption of service, and in the large cost and troublesome nature of the many safety devices which are necessary to secure the system against accident. He argued that there are many cases in which it would be the better solution to build several smaller stations in place of a single large station.

The paper of Mr. Torchio was essentially a list of the appliances, arrangements, and methods of operation and control which become necessary in modern large generating stations to secure the system against accidents and interruptions. Thirty-three separate items were listed, covering the arrangements respectively at the generating stations, on the transmission lines, and in the substations.

Mr. Junkersfeld discussed various sources of trouble in a large high-tension transmission system, taking as a special case the system of the Chicago Edison Co. He suggested the plan of dividing a central station into independent parts, from boiler and coal supply to the switchboard; a transfer bus can be provided on the latter to interconnect these units as may be desired. Each substation should be connected by separate transmission lines to at least two of the generating divisions, so that loads may be shifted and combined in a variety of ways. The author argued for this plan a maximum reliability of operation and equal economy with any other method.

The papers were discussed by Messrs. H. G. Stott, Wagner, Waldron, Sniffin, Lieb, A. V. Abbott and others. Mr. Waldron recounted some of his experiences in operating a 400-KW. steam turbine at the plant of the Yale & Towne Mfg. Co., New Haven, Conn., during the past year. Mr. Stott claimed that high-tension transmission cables were very safe, relatively much more so than low-tension; in case of a short circuit, for instance, in case of a low-tension cable several hundred feet of the line is usually destroyed, while in high-tension cables two or three feet, at most, burned out. Storage batteries are in his opinion of value only as safeguards in case of shutdown, and have no effect in the direction of economy, in fact they rarely pay for themselves. He would consider them purely in the light of an insurance. The suggested independent operation outlined in the third paper he thought would be a backward step, especially in view of the steadily increasing importance of operative economy (coal forms 60% of cost of current). Instead, all necessary safety devices should be employed to render the large station secure against interruption. The speaker emphasized that modern relay oil-switching apparatus is remarkably effective; in the new power station of the Manhattan Ry. there was no difficulty experienced in opening a circuit which short-circuits four of the large generators in multiple. Mr. J. W. Lieb said he was of the opinion that many of the safety devices recommended for large stations were excessive refinements. Storage batteries he considered an absolute necessity rather than a safeguard. He argued against the small stations on the score of their much greater operating cost, and he also opposed the statement, made in one of the papers read, that in a city like New York a number of equally favorable sites for generating stations could be secured.

CONSTRUCTION NEWS.

CONDENSED LIST OF CONTRACTS PENDING WITH DATE OF OPENING BIDS.

Bids to be opened.	Work.	Place.	See Eng News.
Apr. 30.	Sewer,	Nashville, Tenn.	Apr. 23
Apr. 30.	Building,	Quincy, Ill.	Apr. 23
Apr. 30.	Ditch,	Lafayette, Ind.	Apr. 23
Apr. 30.	Sprinkling trucks,	New York, N. Y.	Apr. 23
Apr. 30.	Sewer,	Long Island City, N. Y.	Apr. 23
Apr. 30.	Portland cement, etc.,	New York, N. Y.	Apr. 23
Apr. 30.	**Stone,**	**Portland, Ore.**	Mar. 26
	Advertised, Eng. News, Mar. 26 to Apr. 23.		
Apr. 30.	**Rock removal,**	**Norfolk, Va.**	Apr. 2
	Advertised, Eng. News, Apr. 2 to 16.		
Apr. 30.	**Cement,** sand, etc.,	Washington, D. C.	Apr. 2
	Advertised, Eng. News, April 2 to 30.		
Apr. 30.	**Building,**	Washington, D. C.	Apr. 9
Apr. 30.	**Supplies,** etc.,	New York, N. Y.	Apr. 9
	Advertised, Eng. News, Apr. 9 to 23.		
Apr. 30.	**Buildings,**	Fort Lincoln, N. Dak.	Apr. 9
Apr. 30.	Dimension timber,	Ottawa, Ont.	Apr. 9
Apr. 30.	**Water-works,**	Strathroy, Ont.	Apr. 16
May 1.	Building,	Toledo, O.	Apr. 16
May 1.	Sewer extension,	Fort Sam Houston, Tex.	Apr. 16
May 1.	Sewer system,	Connersville, Ind.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 1.	Sewer,	Aberdeen, S. Dak.	Apr. 16
May 1.	Paving,	Cincinnati, O.	Apr. 16
May 1.	Building,	Newcastle, N. B.	Apr. 16
May 1.	Sewer,	San Antonio, Tex.	Apr. 16
May 1.	Paving,	Watertown, N. Y.	Apr. 16
	Advertised, Eng. News, Apr. 16 and 23.		
May 1.	Building,	Litchville, N. Dak.	Apr. 16
May 1.	Building,	Springfield, O.	Apr. 16
May 1.	School,	Le Sueuer, Minn.	Apr. 9
May 1.	Sewer,	Cheyenne, Wyo.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 23.		
May 1.	Military supplies,	West Point, N. Y.	Apr. 2
	Advertised, Eng. News, April 2 to 30.		
May 1.	Dredging,	Boston, Mass.	Apr. 2
	Advertised, Eng. News, April 2 to 30.		
May 1.	Street cleaning,	Washington, D. C.	Apr. 2
	Advertised, Eng. News, Apr. 2 to May 14.		
May 1.	Bridge,	Indianapolis, Ind.	Apr. 9
May 1.	Log dam,	Hartford, Vt.	Apr. 9
	Advertised, Engineering News, Apr. 9.		
May 1.	Sewer,	Harriman, Tenn.	Apr. 23
May 1.	Garbage crematory,	Fort Slocum, N. Y.	Apr. 30
	Advertised, Engineering News, Apr. 30.		
May 1.	Building,	Quincy, Mass.	Apr. 30
May 2.	Building,	Yates City, Ill.	Apr. 30
May 2.	Ditching,	Crookston, Minn.	Apr. 9
May 2.	Sinking wells,	Cheyenne, Wyo.	Apr. 2
	Advertised, Eng. News, Apr. 2 to 30.		
May 4.	Building,	Memphis, Tenn.	Apr. 2
	Advertised, Eng. News, Apr. 2 and 9.		
May 4.	**Building,**	**Abbeville, Ga.**	Mar. 26
May 4.	**Bridge,**	**Quincy, Cal.**	Mar. 26
May 4.	Building,	Fort Brady, Mich.	Apr. 9
May 4.	Sewer and water system,	St. Paul, Minn.	Apr. 9
May 4.	Sewer and pumping station,	Ardmore, Pa.	Apr. 9
	Advertised, Eng. News, Apr. 9 to 30.		
May 4.	Building,	Albany, Ga.	Apr. 16
May 4.	Macadamizing,	Pequannoc, N. J.	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		
May 4.	Wiring and plumbing,	Fort Douglas, Utah	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		
May 4.	Sewer,	Glenville, O.	Apr. 16
May 4.	Paving,	Napoleon, O.	Apr. 23
May 4.	Building,	Fresno, Cal.	Apr. 23
May 4.	Sewer,	Long Beach, Cal.	Apr. 23
May 4.	Sewer system,	Merion, Pa.	Apr. 23
May 4.	Bridges (2),	Montesano, Wash.	Apr. 23
May 4.	Steel bridge,	Honolulu, H. I.	Apr. 23
May 4.	Bridge,	Corning, N. Y.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 4.	Bridge,	Vicksburg, Miss.	Apr. 23
May 4.	Bridge,	Salem, Ind.	Apr. 23
May 4.	Macadam roadway,	Boston, Mass.	Apr. 30
May 4.	Street lighting,	Ashland, Ky	Apr. 30
May 4.	Reservoir work,	San Luis Obispo, Cal.	Apr. 30
May 4.	Bridge,	Haywards, Cal.	Apr. 30
May 4.	Bridge,	Boonville, Ind.	Apr. 30
May 4.	Building,	Montezuma, Ia.	Apr. 30
May 4.	Sewers,	Turtlecreek, Pa.	Apr. 30
May 4.	Paving,	Newton, N. J.	Apr. 30
May 4.	Repairs,	Jackson, Cal.	Apr. 30
May 4.	Building,	Buckley, Wash.	Apr. 30
May 5.	Bridges,	La Grange, Ind.	Apr. 30
May 5.	Bridge,	Winamac, Que.	Apr. 30
May 5.	Flagstaff,	Vancouver, Wash.	Apr. 30
May 5.	Sewers,	Poughkeepsie, N. Y.	Apr. 30
May 5.	Building,	Attleboro, Mass.	Apr. 30
May 5.	Building,	North Chelmsford, Mass.	Apr. 30
May 5.	Sewer,	Belleville, Ill.	Apr. 23
	Advertised, Engineering News, Apr. 23.		
May 5.	Bridge,	Harrisburg, Pa.	Apr. 23
May 5.	Stone dock,	New Rochelle, N. Y.	Apr. 23
	Advertised, Eng. News, Apr. 23 and 30.		
May 5.	Traveling crane,	Washington, D. C.	Apr. 23
	Advertised, Engineering News, Apr. 23.		
May 5.	Dredging, etc.,	New York, N. Y.	Apr. 23
May 5.	Building,	New York, N. Y.	Apr. 23
May 5.	Macadam road,	Versailles, Ind.	Apr. 23
May 5.	Sewers,	Beaumont, Tex.	Apr. 16
	Advertised, Eng. News, Apr. 16 to 30.		

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

May 5. Paving, Beaumont, Tex. ..... Apr. 16
Advertised, Eng. News, Apr. 16 to 30.
May 5. Building, Jamestown, N. Dak. ..... Apr. 16
May 5. Sewer, Olathe, Kan. ..... Apr. 16
May 5. Drawbridge, Astoria, Ore. ..... Apr. 16
May 5. Building, Greensboro, N. C. ..... Apr. 9
May 5. Pumping plant, Atlantic City, N. J. ..... Apr. 9
Advertised, Eng. News, Apr. 9 and 16.
May 6. Pier repairing, Grand Rapids, Mich. ..... Apr. 9
Advertised, Eng. News, Apr. 9 to May 7.
May 6. Building, Norwich, Conn. ..... Apr. 2
Advertised, Eng. News, Apr. 2 and 9.
May 6. Generators, engines, etc., Rochester, N. Y. ..... Apr. 23
May 6. Bridge, Eugene, Ore. ..... Apr. 30
May 6. Sewers, Chicago, Ill. ..... Apr. 30
May 6. Paving, Paris, Ill. ..... Apr. 30
Advertised, Engineering News, Apr. 30.
May 6. Buildings, Flandreau, S. Dak. ..... Apr. 30
May 6. Sewer, Winchester, Ind. ..... Apr. 30
May 7. Laying water pipe, Chicago, Ill. ..... Apr. 30
May 7. Collection cases, chairs, New York, N. Y. ..... Apr. 30
May 7. Building, Cleveland, O. ..... Apr. 23
May 7. Laying water pipe, etc., Dexter, Me. ..... Apr. 23
Advertised, Eng. News, Apr. 23 and 30.
May 7. Water-works, Uppingham, Eng. (Foreign) ..... Apr. 23
May 7. Bridges, Columbus, O. ..... Apr. 9
May 8. Bridge work, Pawnee, Okla. Ter. ..... Apr. 23
May 8. Extending water system, Cheyenne, Wyo. ..... Apr. 9
Advertised, Eng. News, Apr. 9 to May 7.
May 8. Heat'g and plumbing, Grand Rapids, Minn. ..... Apr. 16
May 8. Heating, Shakopee, Minn ..... Apr. 16
May 8. Bridges, Salem, Ore. ..... Apr. 30
May 8. Bridges, Columbus City, Ind. ..... Apr. 30
May 8. Bridges (11), Sullivan, Ind. ..... Apr. 30
May 8. Patrol wagons (4), New York, N. Y. ..... Apr. 30
May 8. Paving, Hamilton, O. ..... Apr. 30
May 9. Bridge, Brampton, Ont. ..... Apr. 30
May 9. Macadam roads, Warren County, N. J. ..... Apr. 30
Advertised, Engineering News, Apr. 30.
May 9. Building, Williamsport, Pa. ..... Apr. 30
May 9. Macadamizing and draining, Glencoe, Ill. ..... Apr. 30
Advertised, Engineering News, Apr. 30.
May 9. Sewerage, Bridgend, Eng. (Foreign) ..... Apr. 23
May 10. Water-works, Corvallis, Ore. ..... Apr. 23
May 10. Bridge, Surrey, B. C. ..... Apr. 30
May 11. Pipe and castings, Holyoke, Mass. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
May 11. Building, Cleveland, O. ..... Apr. 23
May 11. Castings, Washington, D. C. ..... Apr. 23
May 11. Paving, Weston, O. ..... Apr. 23
May 11. Tail-race tunnel, Toronto, Ont. ..... Apr. 2
Advertised, Eng. News, Apr. 2 to May 14.
May 11. Approaches, Elmira, N. Y. ..... Apr. 16
Advertised, Eng. News, Apr. 16 and 23.
May 11. Macadam road, Camden, N. J. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
May 11. Railway work (Penn. R. R.), Philadelphia. ..... Apr. 30
May 11. Building, Rolla, Mo. ..... Apr. 30
May 11. Building, Bloomington, Ill. ..... Apr. 30
May 11. Sewers, Noblesville, Ind. ..... Apr. 30
May 12. Bridge work, Omaha, Neb. ..... Apr. 30
May 12. Garbage work, Brooklyn, N. Y. ..... Apr. 30
May 12. Shop equipment, Washington, D. C. ..... Apr. 30
May 12. Building, Pocatello, Idaho ..... Apr. 30
May 12. Building, Emporia, Kan. ..... Apr. 30
May 12. Paving, Alexandria, La. ..... Apr. 16
Advertised, Eng. News, Apr. 16 and 23.
May 12. Bridge work, Nebraska City, Neb. ..... Apr. 16
May 12. Gas holder, Copenhagen, Denmark. ..... Mar. 26
Advertised, Engineering News, Mar. 26.
May 12. Pumping engine, Toronto, Ont. ..... Mar. 19
Advertised, Eng. News, Mar. 19 to April 9.
May 12. Bridges (3), Magnolia, N. J. ..... Apr. 9
Advertised, Eng. News, Apr. 9 and 16.
May 12. Buildings, Beaumont, Tex. ..... Apr. 23
May 12. Building, Washington, Ga. ..... Apr. 23
May 13. Lock gates, Pittsburg, Pa. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 21.
May 13. Pipe laying, Governor's Island, N. Y. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
May 13. Garbage work, Brooklyn, N. Y. ..... Apr. 30
May 14. Lighting appliances, Governor's Isld, N. Y. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
May 14. Sanitarium, Burrillville, R. I. ..... Apr. 30
May 14. Paving, Geneva, N. Y. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
May 14. Sewers, Oregon City, Ore. ..... Apr. 30
May 14. Paving, Norfolk, Va. ..... Apr. 9
Advertised, Eng. News, Apr. 9 and 16.
May 14. Building, Hartford, Conn. ..... Apr. 16
Advertised, Eng. News, Apr. 16 and 23.
May 14. Building, Johnson City, Tenn. ..... Apr. 23
May 15. Sewage purification plant, Des Moines, Ia. ..... Apr. 23
May 15. Bridge, Grand Rapids, Mich. ..... Apr. 23
Advertised, Eng. News, Apr. 23 to May 14.
May 15. Steel tank, etc., Richmond, Va. ..... Apr. 23
May 15. Dredging, New London, Conn. ..... Apr. 16
Advertised, Eng. News, Apr. 16 to May 14.
May 15. Dredging, New York, N. Y. ..... Apr. 16
Advertised, Eng. News, Apr. 16 to May 14.
May 15. Drainage, Tomah, Wis. ..... Apr. 2
Advertised, Eng. News, Apr. 2 to 30.
May 15. Building, Winnipeg, Man. ..... Apr. 30
May 15. Marble, New York, N. Y. ..... Apr. 30
May 16. Building, Birmingham, Ala. ..... Apr. 30
May 16. Electric plant, Los Angeles, Cal. ..... Apr. 23
May 18. Bridge, Fredericton, N. B. ..... Apr. 2
Advertised, Engineering News, Apr. 2.
May 18. Garbage plant, Shreveport, La. ..... Apr. 23
May 18. Paving, Toledo, O. ..... Apr. 23
May 18. Roads, Fort Stanton, N. Y. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 14.
May 18. Paving, Payne, O. ..... Apr. 30
May 19. Gravel road, Bluffton, Ind. ..... Apr. 23
May 19. Building, Elizabethtown, N. C. ..... Apr. 23
May 19. Gunboats (2), Washington, D. C. ..... Apr. 2
May 19. Bridge, Milwaukee, Wis. ..... Apr. 16
May 20. Sewage and drainage, Argentina (Foreign) ..... Apr. 23
May 20. Pumping engine, Tucson, Ariz. ..... Apr. 30
Advertised, Engineering News, Apr. 30.
May 20. Bridge, Jacksonville, Fla. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 21.
May 20. Sewers, Bondhill, O. ..... Apr. 30
May 20. Roads, Newport, R. I. ..... Apr. 30
May 21. Filter plant, Yonkers, N. Y. ..... Apr. 30
Advertised, Engineering News, Apr. 30.
May 21. Plumbing, etc., Marietta, O. ..... Apr. 30
May 21. Building, St. Louis, Mo. ..... Apr. 30
May 21. Pumping plant, etc., Martinsburg, W. Va. ..... Apr. 23
Advertised, Eng. News, Apr. 23 and 30.
May 21. Lock irons, Wheeling, W. Va. ..... Apr. 23
Advertised, Eng. News, Apr. 23 to May 21.
May 22. River improvement, Philadelphia, Pa. ..... Apr. 23
Advertised, Eng. News, Apr. 23 to May 21.
May 22. Meters, engines, etc., Washington, D. C. ..... Apr. 23
Advertised, Eng. News, Apr. 23, 30, May 14, 21.
May 25. Electric wiring, Lockport, N. Y. ..... Apr. 23
May 25. Rock excavation, Boston, Mass. ..... Apr. 23
Advertised, Eng. News, Apr. 23, 30, May 7, 21.
May 25. Dredging, etc., New York, N. Y. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 28.
May 25. Dredging, Norfolk, Va. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 14.
May 25. Ditch, Council Bluffs, Ia. ..... Apr. 30
May 27. Sewerage, Argentina (Foreign) ..... Apr. 23
May 27. Dam work, Rock Island, Ill. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 28.
May 28. Building, Tompkinsville, N. Y. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
May 30. Harbor improvements, Jamaica ..... Apr 2
Advertised, Eng. News, Apr. 2 to May 14.
Jun. 1. Coaling plant, Alaska (U. S. Pos.) ..... Apr. 16
Jun. 1. Bridge, Gettysburg, Pa. ..... Apr. 23
Jun. 1. Electric plant plans, San Diego, Cal. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 28.
Jun. 1. Building, Monticello, Miss. ..... Apr. 30
Advertised, Engineering News, Apr. 30.
Jun. 1. Building, Montgomery, Ala. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 3. Bridge, Oak Ridge, La. ..... Apr. 30
Jun. 4. Building, Scranton, Pa. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 6. Sewer system, Washington, D. C. ..... Apr. 23
Advertised, Eng. News, Apr. 23 to May 14.
Jun. 8. Barracks, Alaska (U. S. Poss.) ..... Apr. 23
Jun. 8. Defense towers, Portland, Ore. ..... Apr. 30
Advertised, Eng. News, Apr. 30 to May 21-June 4.
Jun. 8. Building, Cleveland, O. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 9. Alterations, St. Paul, Minn. ..... Apr. 30
Advertised, Eng. News, Apr. 30 and May 7.
Jun. 13. Railway materials, Siam ..... Feb. 5
Jun. 15. Breakwater, Manila, P. I. ..... Mar. 12
Advertised, Eng. News, Mar. 12 to May 14.
Jun. 18. Street lighting, Portland, Ore. ..... Apr. 23
Jun. 30. Fencing, Gettysburg, Pa. ..... Apr. 16
July 1. Electric lighting, etc., Rangoon, India ..... Feb. 5
July 1. Railway, Argentina (Foreign) ..... Apr. 23
May 2, '04. Railway, South Australia ..... Feb. 5
No date. Paving, Pittsburg, Kan. ..... Apr. 30
Advertised, Engineering News, Apr. 30.

RAILWAYS.

(For foreign railways, see under "Mexico," and "Foreign Contracts and Export News.")

BALTIMORE & OHIO.—Company will order from 100 to 150 new locomotives for delivery during 1904. These will represent an outlay of from $1,500,000 to $2,300,000.

CHICAGO & EASTERN.—W. S. Whitney, Gen. Pass. Agt., states that an extension will be built by the company from Muncie to Hagerstown, there connecting with the Penn. R. R.

CHICAGO, ROCK ISLAND & PACIFIC.—Company has secured 10 city blocks on the bay front for a terminal site.

CLEVELAND, CINCINNATI, CHICAGO & ST. LOUIS.—Geo. W. Kittredge, Ch. Engr., Cincinnati, O., informs us that the contract for the reduction of grade and improvement in alinement of track between Lawrenceburg Junction and Suninans, Ind., has been let to the Shutt Improvement Co., St. Louis, Mo.

COLUMBIA SOUTHERN.—As soon as irrigation in Des Chutes county, Ore., is assured, the company will build 95 miles of railway in that section.

DELAWARE, LACKAWANNA & WESTERN.—Engineers are running a new line for a single track from the Hanover & Newport branch to a new coal breaker near Nanticoke, Pa. Lincoln Bush is Ch. Engr., Hoboken, N. J.

DULUTH & NORTHEASTERN.—Surveyors are in the field working out a line for this road from Island Lake, on the Cloquet River, to Cloquet, on the St. Louis River, in Minn.; distance, 25 miles. The line will be standard gage and will be used for logging purposes. J. C. Campbell, Supt., Cloquet, Minn.

ERIE R. R.—Company received bids on April 24 for depressing the tracks at the Penn. Coal Co.'s colliery No. 10, near Scranton, Pa.; est. cost, $120,000.

GRAY LUMBER CO.—B. B. Gray, of this company, agrees to build his line into Nashville, Ga., by Nov. 1. Work will commence at once. The remaining section between the road from Lellaton to Nashville is about five miles long. Citizens of Nashville have granted bonus of $2,000. Sparks, Ga., is the northern terminus.

GREAT NORTHERN.—The tracks between Malta and Saco, Mont., will have to be moved in connection with the plan to establish a government reservoir.

GULF, CALCASIEN & NORTHERN.—H. B. Milligan, Pres., Lake Charles, La., writes that it is expected to have arrangements made and to let contracts about July 15 for this road. Line will be 110 miles long and run through timber lands. Locating corps now in field. F. Shutts is Locating Engr., Lake Charles.

MANISTEE & NORTHEASTERN.—Chief Engineer Hubbell and other officials were recently at Sherman, Mich., and stated that the company intended building to that point. Mr. Hubbell may be addressed at Manistee.

MICHIGAN CENTRAL.—Contracts have been let for double-track work to Wm. E. Tench & Co., 239 Park St., Detroit, Mich.

MISSOURI, KANSAS & TEXAS.—In relation to a piece of construction recently reported to be under consideration by this road, S. B. Fischer, Ch. Engr., St. Louis, Mo., writes as follows: "I do not know anything about a proposed cut-off from Granger to Marshall, Tex., and can imagine no object in the M., K. & T. building such a line."

MOBILE, JACKSON & KANSAS CITY.—Location survey now being made; length, 200 miles. F. B. Merrill is Pres., and H. S. Jones, Ch. Engr., both of Mobile, Ala.

MONTANA CENTRAL.—Extension of branch line from the Boston & Montana Works near Great Falls, Mont., to the main line at the Rainbow Falls, will be made in the near future. Preliminary surveys were made a year ago. Resident Engineer McNeil, at Great Falls, recently visited the scene of the proposed work.

NACOZARI R. R.—Supt. Douglas of Montezuma Copper Co. at Nacozari, Ariz., states that this company will extend its road to Nacozari, 22 miles, at once. Orman & Cook will probably have the contract. J. S. Douglas is Mgr. Dir., Douglas, Ariz.

NEW MEXICO.—The Colorado Iron & Fuel Co. has acquired iron deposits in the southwest in Cocorro county and a branch road will be run from Coyote to the new field. It is intended at a later date to install blast furnaces and a foundry.

NEBRASKA, KANSAS & GULF.—We are informed that the location is completed from Beatrice, Neb., to Wichita, and Arkansas City to Ft. Smith. Contract is let to Federal Construction Co., Kansas City, Mo., J. O. Reddig, Gen. Mgr. Work will commence immediately. Capital secured for constructing entire line. It will be 540 miles long and run from Beatrice to Ft. Smith, Ark. H. F. Reddig is Pres., Kansas City.

OREGON R. R. & NAVIGATION CO.—Extension into Central Oregon under consideration. Details are now being worked out and construction will soon be commenced. W. H. Kennedy is Ch. Engr., Portland, Ore.

NEW YORK.—Wm. H. McDonald, 32 Broadway, New York, will prepare estimates of the cost per mile of the construction and equipment of two prospective standard-gage steam railways in this country.

PEARL & LEAF RIVER.—W. A. Stevenson, Gen. Mgr., Hattiesburg, Miss., writes us as follows: "The company will build immediately 9¾ miles of line from Prentiss, Miss., to Silver Creek, Miss., connecting at the latter point with the Columbia-Mendonhall branch of the G. & S. I. R. R. Both lines are expected to be in operation before Jan. 1, 1904. The extension will be laid with 80-lb., A. S. C. E. section steel rails."

PENNSYLVANIA R. R.—Bids are wanted by W. H. Brown, Ch. Engr., Philadelphia, Pa., until May 11, for a tunnel for two tracks on the main line of the P. B. & W. R. R., from Seventh St. and Virginia Ave., Washington, D. C., to Second Ave., S. E.; a twin tunnel for two tracks on the new line from D St. and New Jersey Ave., S. E., and along the west side of Massachusetts Ave., N. E., and a two-track line from New York and Montana Aves., to a point on or near Magruder Station, on the P., B. & W. The line will be five miles long.—The committee appointed to assist President Cassatt in the construction of the tunnel under the Hudson River, composed of Theo. N. Ely, Ch. of Motive Power, Chn.; W. H. Baldwin, Pres. Long Island R. R.; S. D. Newhall, Pur. Agt. Penn. R. R.; A. W. Gibbs, Gen. Supt. Motor Power, and A. S. Vogt, Ch. Mech. Engr., has decided to adopt for use in the tunnel an electrical engine, with the motor resting on a truck, so that it will only be necessary to increase the number of trucks to obtain increased power. The company's offices are in the Broad St. Station, Philadelphia.

RIO GRANDE & SOUTHWESTERN.—E. M. Biggs, Pres., Edith, Colo., writes that contracts will soon be let for a line from Lumberton, N. Mex., via El Vado, to Gallena, about 42 miles long; location made; right of way arranged for. E. J. Yard is Ch. Engr., Denver, Colo.

ST. LOUIS & SAN FRANCISCO.—Johnson Bros., contractors, St. Louis, Mo., will soon begin the construction of the new road between Brownsville and Alice, Tex., 100 miles distant.

SEABOARD AIR LINE.—The company has sold $6,000,000 of 4% bonds for the construction of its extension to Birmingham, Ala.—Engineers are at work on the extension from Lock Three to Gadsden.

SOUTHERN PACIFIC.—Surveyors are making a final survey of the projected branch of the West Side Ry. across the Willamette River, to connect with the East Side line into Portland, Ore., near Oswego and Milwaukee.

STOCKTON & BECKWITH PASS.—A. W. Keddie, Engr. in charge of surveys from Oroville to the Nevada state line, arrived in Quincy, Cal., from San Francisco and will commence surveys at once. Two other parties are now in the field on different sections.

SUCKER RIVER RY.—D. N. McLeod, owner, states that a junction will be made with the Manistique railway. The distance between the roads is 12 miles. Surveys are made and steel purchased. Work will be started immediately if not already begun.

TEXAS SHORT LINE.—It is reported that this road will soon be extended from Grand Saline south to Canton, Tex., about 14 miles. D. C. Earnest is Gen. Mgr., Grand Saline.

TRANS-CANADA.—C. E. Perry, Engr. in Charge of Surveys, Quebec, Que., writes us that surveys are now under way and are being pushed vigorously; about 150 miles of the road is located and 60 miles built. The capital will be ready when arrangements with the Government are completed. Construction from head of Lake Winnipeg, east and west, and from Port Simpson, B. C., east, is being hastened. The line will run from Quebec City to Port Simpson. Geo. T. Tanguay is Mgr., and A. E. Concet, Ch. Engr., both of Quebec City.

UNION PACIFIC.—This company will build a road from Hampton east of Evanston, Wyo., through Unitah county to Altamont, via the Cumberland coal mines. The road will be between 50 and 75 miles long, according to the route. J. B. Berry is Ch. Engr., Omaha, Neb.

WASHINGTON.—Reports from Montesano state that the Frank H. Lamb Timber Co. propose building a railway from Peel's slough to its timber on Black Creek. The first section built will be five miles long.

NEW INCORPORATIONS AND CHARTERS.

CANTON, ABERDEEN & NASHVILLE.—Ala.—Amendment to charter applied for to extend lines from Brilliant to Double Springs, and through Winston, Franklin, Lawrence and Calbert counties to the dividing line between Alabama and Tennessee; capital stock, $1,000,000.

DENVER, YANKEE HILL & WESTERN.—Colo.—Capital stock, $500,000; John C. McShane, Geo. L. Torrey and Wm. Chamberlain, incorporators.

EUSTIS R. R.—Maine.—To run from Dallas Plantation to Reddington township, 16 miles; 2-ft. gage; lumber road; capital stock, $48,000; Fletcher Pope, Sydney G. Halsey and Harry B. Austin incorporators.

IOWA R. R.—Iowa.—Capital stock, $135,000; four miles of track from Pella to Howard, to be built. Liston McMillan, Y. J. Price and John J. Price are incorporators.

LAKE ERIE, RAVENNA & SOUTHERN.—Ohio.—Mentor Marsh, Lake Co., to Alliance; F. H. Goff, J. E. Morley, E. A. Foote and W. T. Carr, Cleveland, are incorporators.

LORAIN, AMHERST & WELLINGTON.—Ohio.—J. A. Beidler, John M. Gundry and David J. Kurtz, Cleveland, are incorporators; to run from Lorain to Wellington, 20 miles.

MEMPHIS & NEW ORLEANS.—Ark.—Capital stock, $6,265,000, the estimated cost of road; to run from connection with K., P. S. & M. near Marion to point west of the Mississippi River, 179 miles. B. L. Winchell, C. H. Beggs and C. H. Trimbee are interested.

TENNESSEE, GEORGIA & SOUTH CAROLINA.—S. C.—Chartered to operate line from Anderson, S. C., to Blue Ridge, Ga.; capital stock, $250,000; W. B. Frink, Chicago, Ill., Pres.; Capt. H. H. Watkins, Anderson, Secy.

STREET AND ELECTRIC RAILWAYS.

(For foreign street railways, see under "Mexico," and "Foreign Contracts and Export News.")

WATERVILLE, ME.—Construction has begun on the electric road from Waterville to Oakland. Mitchell & Johnson, Westbrook, are the contractors.

NASHUA, N. H.—The directors of the Hudson, Litchfield & Gapps Falls Electric Ry. have been instructed to proceed immediately with the construction of the road. Ground will be broken next month. Isaac N. Center, Manchester, is Pres., and Arthur S. Campbell, Manchester, Vice-Pres.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

BELLOWS FALLS, VT.—C. Q. Richmond, an incorporator of the Bennington & North Adams St. Ry., and Daniel T. Bates, Civil Engineer, have found the route through Pownal Center and Pownal, with a spur to North Pownal, to be the most favorable. The entire length will be about 14 miles. Surveys now being made and work on rights of way to start soon.

FALL RIVER, MASS.—A charter has been issued for an electric line from Fall River to Adamsville, Westport Point to Horseneck and Bliss Corners, about 22 miles. Surveys will start at once. J. C. McKenzie, Fall River, and Gifford Cornell, Westport, are interested.

NEWBURYPORT, MASS.—The Haverhill, Danvers & Ipswich St. Ry. Co., formed with $50,000 capital stock, will connect Boxford, Groveland, Georgetown, Rowley and Topsfield, 20 miles. Chas. M. Perley, Ipswich, A. T. Merrill, Topsfield and G. F. Carleton, Rowley, are directors.

BRISTOL, CONN.—The Bristol-Plainville Tramway Co. has awarded contracts for an extension to Terryville, four miles.

HARTFORD, CONN.—The Canaan & Berkshire Tramway, incorporated in 1899, is given until July 1, 1905, to complete its organization and also permission to build from Canaan, Conn., to Ashley Falls, Mass.——The East Hartford & Glastonbury St. Ry. Co. is authorized to build various extensions and its charter is extended to July 1, 1905.——The Woodbury & Seymour St. Ry. Co. is chartered to build and operate street railways in Woodbury, Southbury, Oxford and Seymour; capital stock, $400,000. Levi E. Curtis, Woodbury; Christian Strobel, Waterbury, and Fred. L. Averill, Bradford, are incorporators.

MEDINA, N. Y.—The Union Traction Co. is ready for bids for the construction of a 50-mile electric road from Batavia to Olcott on Lake Ontario by way of Medina. F. L. Downs, Medina, is Pres.

GLENS FALLS, N. Y.—The Hudson Valley Ry. Co. has acquired the property and franchise of the North River Ry. Co., which was organized to build an electric road from Saratoga to this city. Work was never started; new owners will begin laying rails in Saratoga at once and will complete the road by June. Addison B. Colvin is Pres., and Geo. A. Holmes is Secy.

JAMESTOWN, N. Y.—The Jamestown, Chatauqua & Lake Erie R. R., running from Jamestown to Westfield, will be converted into a trolley line.

STROUDSBURG, PA.—J. B. Williams, Pres., informs us that rights of way are obtained for the Pocono, Leanna & Newfoundland Ry., but very little surveying is done. The road will be an electric, nine miles long, and touch South Sterling, besides towns named. John C. Westbrook is Ch. Engr., Stroudsburg.

HAGERSTOWN, MD.—Surveys about completed between here and Rouzerville, Pa., on the Hagerstown, Smithsburg & Pen Mar Ry. Line will be 16 miles long. A. Neill is interested.

WASHINGTON, D. C.—The funds for building the Great Falls & Old Dominion Electric Ry., from Washington to Great Falls, have been obtained. The cost of the 16 miles of road will be $400,000. John R. McLean is interested. It is stated that a large hotel at Great Falls is a part of the project.

MORGANTOWN, W. VA.—The Morgantown, Fairmont & Cheat River St. Ry. is chartered; capital stock, $700,000; franchise secured in Monongalia county, permitting the construction of 20 miles of road; road will also traverse Marion, Monongalia and Preston counties, W. Va., and Fayette and Green counties, Pa. Davis Elkins, Frank K. Bretz and Thos. R. Dille are interested.

SISTERVILLE, W. VA.—Robt. Miller, Pittsburg, states that the proposed Martinsville, Sistersville & Middleburn Electric R. R. will establish an industrial town at Paden's Valley, four miles north of here. Contracts awarded to Tennis Bros. Co., Pittsburg, for grading and constructing road; to Westinghouse Co., Pittsburg, for generators, power plant under immediate superintendency of C. L. Woolridch, Pres. This plant will cost $100,000.

GREENVILLE, S. C.—Geo. E. Coughlin, a promoter of the proposed trolley line between Greenville and Anderson, states that surveyors will begin work immediately.

BILOXI, MISS.—The Biloxi St. Ry. has awarded contracts for rails, engines and materials for six miles of track.

NASHVILLE, TENN.—The Broad St. car line will be extended from Euclid Ave. to Whitworth's Lane, one mile.

EDMONTON, KY.—Surveys are being made for a line from Horse Cave to Edmonton, a distance of 25 miles. Power to be electricity. P. M. Heller, Jeffersonville, Ind., is Ch. Engr.; E. H. Alexander, Knob Lick, Ky., is the principal promoter.

LOUISVILLE, KY.—Arrangements are perfected for the construction of the line from Louisville to Mt. Washington. Contracts for right of way and power made with Louisville Cy. Ry. Tennis Co., Cincinnati, O., have been awarded contract for constructing the line.——Franchise is granted the Lower River Road Co. for an entrance into Louisville by the board of aldermen. Construction will begin as soon as possible. Tennis Co., Cincinnati, O., will construct the line.

CLEVELAND, O.—Max P. Goodwin, Secy., Youngstown & Ohio River Ry. & Light Co., writes that work of securing rights of way and making surveys is almost completed and franchises in all towns except Youngstown. Contracts will be let within 30 days, and for information regarding that matter Will Christy, Pres. Cleveland Construction Co., also Vice-Pres. of this company, should be addressed. Capital arranged for. The line will be an electric, 33 miles long (eventually to be 52 miles in length) and will touch at 12 or more prominent towns. Later an extension will be made to West Point and East Liverpool. T. W. Hill is Pres., Cleveland Nat. Bank, and W. E. Davis, Ch. Engr., Cleveland Construction Co.

COLUMBUS, O.—Consents for rights of way for the Columbus, Bellefontaine & N. W. Electric Ry. Co. are being secured. Daniel E. Sullivan is Pres., 1232 N. High St., Columbus.

ELYRIA, O.—The Elyria, La Grange & Southern Traction Co.'s line will be six miles long and will run over private right of way; capital stock, $30,000. Wm. Heldmyer is Pres. and J. M. Starr, Vice-Pres.

MARIETTA, O.—Surveys for the Ohio Valley Ry. are well under way. The company will build an electric road, low grades, first-class roadbed, heavy rails, etc. W. P. Mason, Ch. Engr., First National Bank Bldg., Marietta.——T. N. Ripley, Ch. Engr. Marietta, Woodsfield & Barnesville Ry., writes that preliminary surveys are being made over the 68 miles of road to be built. R. Merydith is Pres.

TOLEDO, O.—P. P. Duket, Pres. Toledo & Michigan Electric Ry. Co., 323 Spitzer St., writes that rights of way are completed and contracts will be let for the line from Adrian to Coldwater, Mich., 56 miles, as soon as satisfactory arrangements can be made. Field & Hinchman, Detroit, Mich., are Engrs.——The Toledo, Lakeside & Port Clinton R. R. will erect a temporary power house at Genoa, and will start work at once. The Westinghouse Electric Mfg. Co., Pittsburg, will supply the electrical equipment, and the Erie City Boiler Works, Erie, Pa., the steam plant.

BLUFFTON, IND.—Contract for grading interurban line from this city to Montpelier let to John Hayes & Sons; work to be begun at once and be completed by Aug. 1.

FT. WAYNE, IND.—F. E. Semon, Engr., Philadelphia, Pa., will survey the proposed traction line between this city and Bryan; company organized with $100,000 capital stock to push the work of construction.

JEFFERSONVILLE, IND.—The lines of the Southern Indiana Interurban Ry. Co. are being extended in this city. Tennis Co., Cincinnati, O., are building the lines.

INDIANAPOLIS, IND.—The Union Traction Co., which controls 300 miles of interurban electric lines in Indiana, has secured franchises from Hammond, Valparaiso and Hobart for a line connecting Indianapolis with Hammond and there join the electric system to Chicago.

MADISON, IND.—E. F. Layman, Ch. Engr. Madison, Greensburg & Indianapolis Ry., Cincinnati, O., informs us that surveys are completed and rights of way obtained, also capital for construction, and that contracts will be let as soon as plans, etc., are finished. Engineers are now working on plans. Line will be an electric, 50 miles long, and touch N. Madison, Bryantsburg, Rexville, Versailles, Osgood, Napoleon, Smyrna and Greensburg, besides towns named. Richard Johnson, Madison, is Pres.

LINCOLN, ILL.—D. H. Harts writes that the Lincoln St. Ry. runs within 3,000 ft. of the Chatauqua grounds, and in order to extend the line to the grounds a company has been organized to close the link.

SPRINGFIELD, ILL.—Illinois Union Ry. Traction Co. incorporated with $500,000 capital stock; principal office, Monmouth; to construct a system of interurban electric roads from Monmouth to Aledo, Rock Island and Muscatine, and from Monmouth to Roseville, Macomb, Hamilton and Keokuk. F. E. Biting, Macomb; W. H. Beaver, Abingdon, and S. S. Hanam, Monmouth, are directors.

LA CROSSE, WIS.—Mills Tourtellotte, Pres. La Crosse & Black River R. R., writes that the engineering work is about finished and rights of way are secured. Financiering is not complete and as soon as that is done contracts will be let. Line will be operated by electricity generated by water power, and will be 50 miles long. It will extend from La Crosse to Black River Falls. C. A. Chapman is Ch. Engr., Marquette Bldg., Chicago.

GLENWOOD, IA.—Surveyors in the field locating a road soon to be incorporated under the name of Omaha, St. Joseph & Southern Electric Ry. It will extend from Omaha to Rockport, Mo. A good part of the right of way is secured.

ANACONDA, MONT.—Superintendent Wathey, of the street car service, is making preparations to rebuild the Montana St. line.

HUNTINGTON, ARK.—John W. McConnell informs us that the right of way is obtained and a $1,000 bonus offered to the company that will build the electric road from this place to Burma, 10 miles. The Huntington & Sugar Loaf Rapid Transit Co. was organized for that purpose. A. B. Brown is Pres.

FORT SMITH, ARK.—The Fort Smith Light & Traction Co. has incorporated with $300,000 capital stock, and will operate an interurban electric street railway system and a toll bridge across the Arkansas River near Van Buren. W. C. Lemert is Pres.; R. G. Hunt is Secy. and Treas.

FORT WORTH, TEX.—Geo. T. Bishop, Pres. Northern Texas Traction Co., states as follows regarding contemplated improvements: "We expect to make $250,000 improvements in Fort Worth this year in extensions, betterments, etc. We expect to spend $100,000 on the Dallas end, which will include a double track at Oak Cliff, a passenger station at Dallas and other improvements. At Handley we expect to spend about $50,000."

PALESTINE, TEX.—T. J. McKain is here representing Chicago parties and will propose the construction of an electric road from Greenville to Palestine and thence to the gulf. Palestine will be asked for terminus right of way and a money bonus

GUTHRIE, OKLA.—Territorial charter granted Oklahoma Electric Co., Oklahoma City, for electric line uniting Oklahoma City with Norman, 20 miles, with El Reno, 30 miles, and with Shawnee, 50 miles; capital stock, $1,000,000. F. B. Zeigler, B. R. Harrington and J. T. Alexander are interested.

ALAMOGORDO, N. MEX.—County commissioners have granted the Alamogordo St. Ry. & Land Co. a franchise; capitalized at $50,000; F. M. Avis is interested.

ROSWELL, N. MEX.—Roswell Transit Co. incorporated by Carl Snider, Wendell M. Reed, Morris Price and others to construct electric railway, a plant to furnish electrical power for railway and lighting plant and a water system. Capital, $100,000.

EVERETT, WASH.—James E. MacMurray, Chicago, states that within 60 days work will be started on the interurban line between Seattle and Everett and trains will be running before fall. The materials for construction have been shipped. The franchise was secured by F. E. Sander.

OLYMPIA, WASH.—J. B. Weddell, Ch. Engr. Capital City Traction Co., will begin survey for line at once. Preliminary work on new line between this city and the West Side will begin immediately.

PORT TOWNSEND, WASH.—Izett Bros. are preparing to build a railroad from tidewater up the Docewallips River. Some three miles of road will be built this year.

WHATCOM, WASH.—The Whatcom-Skagit Interurban Ry. Co. has filed articles of incorporation to build an electric line touching La Conner, Mt. Vernon and Edison, also Deming, Sumas and Lynden. Route not determined. Geo. G. Shelton, Whatcom; B. F. Shaffer, Seattle, and E. M. Day, Fairhaven, are incorporators.

PORTLAND, ORE.—The Portland St. Ry. Co. will spend $300,000 in improvements and repairs this year. Between 12 and 15 miles of new track will be laid. Work will soon start.——The Oregon Water Power & Ry. Co. has between 600 and 700 men with steam shovels and other paraphernalia at work on its new line from the East Side to its terminal on the Clackamas River. About $5,000,000 will be spent on the work. Archie Mason, contractor, has charge of a portion of the work.

BERKELEY, CAL.—The Pacific Improvement Co. is formulating plans for constructing an electric road along the sides of the Berkeley Hills.

HANFORD, CAL.—Louis M. Cole has received a franchise for an electric road in Kings county. Construction must commence within six months and the road be completed within two years.

FRESNO, CAL.—Wm. G. Kerckhoff, Los Angeles, Pres. Pacific Light & Power Co., has purchased the street railway system of Fresno. The Barry system and the Einstein horse-car lines included will be equipped electrically.

LOS ANGELES, CAL.—J. J. Davis, Gen. Supt. United Electric, Gas & Power Co., San Francisco, states that work will soon begin on an electric line between Los Angeles and Santa Barbara.——Henry T. Hazzard and W. H. Workman have petitioned the board of public works for different franchises.

RED BLUFF, CAL.—Electric railway from here to Tuscan a possibility of near future; projected by Eastern capitalists.

RIVERSIDE, CAL.—Bids asked by C. R. Stibbens, Cy Clk., until May 12, for electric street railway franchise.

SACRAMENTO, CAL.—Isaac Meyers, representing the California Mining & Development Co., states that the company is planning to construct an electric railway to connect Orangevale and Fair Oaks with Newcastle and Sacramento.

SAN DIEGO, CAL.—The people of La Jolla and Pacific Beach are urging owners of San Diego, Pacific Beach & La Jolla R. R. to adopt electricity as motive power. Estimated cost of exchange is $180,000.

WALLACE, IDAHO.—Herman J. Rossi has applied for a franchise to operate an electric railway through Wallace. Line will extend beyond Wallace.

OAKVILLE, ONT.—J. McDougall and surveying party are making final surveys up Colborne St. for the continuation of the electric line from Long Branch to Oakville.

STRATFORD, ONT.—We are informed that application for the charter for the Stratford Radial Ry. Co. is now pending before the legislature, which is now in session. The line will be an electric, about 50 miles long, and run from Stratford to Mitchell, to St. Mary's and to Embro on C. P. R. by separate lines.

LIGHT, HEAT AND POWER PLANTS.

(For foreign light, heat and power plants, see under "Mexico," and "Foreign Contracts and Export News.")

BURLINGTON, VA.—Public meeting to discuss municipal electric light plant may be called soon. Prof. W. H. Freedman has been investigating matter.

EVERETT, MASS.—We are informed that the following bids were received April 24 for lighting streets and public buildings; Charles Bruce, Mayor: Malden Electric Co., 159 Devonshire St., Boston, Mass., arc, 2,000 c. p., all-night schedule save on moonlight nights, $90; incandescents, $15.50, to burn until 12.15 a. m.; Globe Gas Light Co., 77 Union St., Boston, Mass., 60-c. p. gas lights, sufficient in number to light city, $28 per light.

IPSWICH, MASS.—Town votes $25,000 for establishing municipal electric lighting plant.

RIDGEFIELD, CONN.—Estimates on the cost of an electric plant for the Ridgefield Electric Co. are being made. H. B. Anderson is interested.

GENEVA, N. Y.—We are informed that the estimated cost of the plant of the Empire Coke Co. is $800,000, and that the Semet-Solvay Co., Syracuse, N. Y., are the Des. Engrs. The plant is to be operated by steam and gas engines. E. H. Palmer, Pres.

GOVERNOR'S ISLAND, N. Y.—Bids are asked until May 14 for installing electric lighting appliances, as stated in our advertising columns. T. Norman, Q. M.

NEW YORK, N. Y.—Several theatrical managers, among whom is Wm. Harris, Business Mgr., Garrick Theatre, are said to have perfected plans for an electric plant for furnishing light and heat to all the theatres. The company—the Long Acre Electric Light & Power Co.—has been incorporated.

SYRACUSE, N. Y.—John Dunfee, Dunfee Bldg., is stated to be interested in the establishment of a power plant at Fox Bridge, near Pulaski. The plan involves the use of the Salmon River and the construction of a reservoir and plant to cost $2,150,000. Engineers have estimated that 12,484 HP. could be developed. The power would be transmitted to Syracuse.

BERLIN, PA.—Electric light plant voted for.

WILMINGTON, DEL.—Wm. Draper Brinckle, Arch., Equitable Bldg., writes us that bids were received April 24 for the building for a power plant on Maryland Ave. The equipment, boilers, engines, dynamos, fans, etc., will be arranged for by the American Vulcanized Fibre Co., the owners of the plant.

HYATTESVILLE, MD.—A special election will be held May 11 to vote on granting electric light franchise to the Northern Electric Co., of which Geo. H. Watson is a trustee.

WASHINGTON, D. C.—We are informed that the following bids were received March 28 for street lighting, the contract being awarded to the American Lighting Co.; Walter C. Allen, Dist. Elec. Engr.; each bid being per lamp per year: American Lighting Co., Baltimore, Md., $25.75; Union Lighting Co., Washington, D. C., $25.80; Western Street Lighting Co., Cleveland, O., $26.35; Welsbach Street Lighting Co., Philadelphia, Pa., $28.

WASHINGTON, D. C.—It is stated that plans for the power plant of the Great Falls Power Co. on the Upper Potomac are to be completed at once. The plans provide for a generating capacity of 75,000 HP. The officials of the Washington R. R. Electric Co. are said to hold the controlling interest in the company.

CHRISTIANSBURG, VA.—The contract for supplying 50-KW. current lighting purposes, and for water-works has been let to the Unique Power, Light & Water Co., Cambria, Va. This company will increase its capital stock from $10,000 to $50,000. James Rigby, Pres., writes us that bids will be received until May 10 for plant, the estimated cost of which is $30,000. The electric plant will be finished first.

FULTON, VA.—Alderman Louis Washer writes us that the Richmond Passenger & Power Co. has a contract to light Fulton for a five-year term, of which about four years is yet to run. The company is now changing its system of lighting.

LUMBERTON, N. C.—City votes for electric light plant.

SAVANNAH, GA.—Improvements totaling nearly $100,000 are announced for the power house of the Savannah Electric Co. The boiler capacity is to be increased and a new generator and storage battery is to be installed.

SPARKS, GA.—R. A. Knight, Adel, Ga., has been figuring on furnishing town with electric lights.

NEW DECATUR, ALA.—It is stated that the local gas and electric light plants, recently purchased by New York parties, are to be improved at cost of $40,000.

ASHLAND, KY.—Bids are asked until May 4 for lighting city streets with arc electric lights, 2,000 c. p. each, for a five-year term; also for ten-year term. R. C. Richardson, Cy. Clk.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

NEW ORLEANS, LA.—We are informed that an electric light and power system is contemplated for the city, although no legislation has been enacted nor funds provided. The estimated cost is $1,356,000. W. J. Hardee, Cy. Engr.

BOWLING GREEN, KY.—We are informed that the matter of a municipal light plant is in the hands of a special committee, who are trying to bring the present lighting company to satisfactory terms.

HARRODSBURG, KY.—Mayor J. Hal Grimes writes that contracts for city electric plant have been let as follows: bids were received April 20: Generators, Commercial Electric Co., Indianapolis, Ind.; engines, Ridgeway, McEwen Co., Johnstown, Pa.; boilers, J. P. McWilliams, Louisville, Ky.; stokers, Detroit Stoker Co., Detroit, Mich.; switchboard, H. I. Wood, Louisville, Ky. The plant was to cost about $18,000.

MADISONVILLE, KY.—City has renewed electric lighting contract with the Bailey Light & Water Co.

NAPOLEON, O.—City has secured leave to use water-power privileges from state canal; estimated cost of work is about $8,000.

ANDERSON, IND.—Geo. Vincent, Indianapolis, Ind., has been engaged to make plans for a steam heating plant for the Home Heating Co.

ELWOOD, IND.—City electric plant probable.

LAFAYETTE, IND.—Trustees Lafayette Soldiers' Home are to call for bids for a new steam heating plant to cost $35,000. W. S. Haggard is Pres.

SHELBYVILLE, IND.—The Shelbyville Water & Light Co. has secured a 10-year contract from the city and both plants will be improved and enlarged.

TERRE HAUTE, IND.—Plans are being made for a complete heating plant here for the Citizens' Mutual Heating Co. Jno. T. Beasley.

GRAND RAPIDS, MICH.—The Thornapple Valley Electric Co., Wesley H. Hyde, Pres., has applied for a franchise for extending its lighting service to this city. It is said that the company is planning to erect a new dam and power station near Cascade.

BELVIDERE, ILL.—City lighting plant voted for. Wm. L. Pierce is Mayor.

GUTHRIE CENTER, IA.—Town votes to grant electric light franchise to local company.

REDFIELD, IA.—Mayor Robert Gordon writes us that they are figuring on electric lights and new town hall; population, 700.

DULUTH, MINN.—The city has entered into a contract with the Zenith Furnace Co. by which the city will be furnished with gas from a by-product coke plant to be located by the company at West Duluth.

FARIBAULT, MINN.—The Polar Star Electric Co. is to install a plant about four miles from the city.

STILLWATER, MINN.—It is stated that if the franchise of the Stillwater Gas & Electric Light Co. is extended for 20 years, as is desired, $40,000 will be spent in improving the gas plant and an equal sum on the Apple River Falls plants. The Western Gas & Electric Light Co., George Mayer, Secy., Chicago, Ill., will probably purchase the local plants.

BELGRADE, MONT.—Alexander Freeman, Bozeman, Mont., and others have asked for an electric light and water-works franchise.

GEORGETOWN, TEX.—The local electric light and water plants are to be equipped with new machinery and otherwise improved.

ALAMOGORDO, N. MEX.—Contract for electric plant at Fort Stanton Sanitarium has been let to A. H. Fisher for $7,890.

LAS VEGAS, N. MEX.—Electric light and power franchise has been granted to Ebenezar Barber.

BALLARD, WASH.—City is considering leasing of municipal electric light plant to Kilbourne-Clarke Co. for 50 years.

BALLARD, WASH.—It is stated that the Ballard Electrical Co. will at once install an electric light plant in this city.

PALOUSE, WASH.—G. W. Peddycord writes us that the council will take up at their next meeting the granting of an electric light franchise to C. E. Frederick and himself.

PORT ANGELES, WASH.—It is stated that the following apparatus will be required to bring city electric light plant up to date: 60-KW. alternating dynamo, 500 light transformer, five 100-light transformers, switchboard, etc.

WALLA WALLA, WASH.—The Walla Walla Gas & Electric Light Co., C. E. Burrons, Mgr., will, it is said, commence actual work on its power plant on south fork of the Walla Walla River by May 16. The plant will cost $100,000 and will have 4,000-HP. capacity. Electricity will be transmitted by 65 miles of wire to various points.

ALBANY, ORE.—The Albany Canal & Water Co. is to improve its electric light plant and system at cost of $20,000. New electrical machinery will be installed and a new power house constructed. A new street lighting system will also be put in.

HEPPNER, ORE.—It is stated that A. M. Slocum will install a $20,000 electric plant at mill to supply city electric power.

UNION, ORE.—Reports state that the Eagle Creek electric plant will erect a substation at this place to cost $200,000.

REDDING, CAL.—D. M. Burson, C. E., is reported to have been appointed receiver for the McCloud River Electric Power Co.

SAN DIEGO, CAL.—Bids are asked until June 1 for furnishing plans and specifications for an electric light plant for the city, as stated in our advertising columns. Geo. D. Goldman, Cy. Clk.

SAN FRANCISCO, CAL.—The Independent Electric Light & Power Co. has let a contract to Robt. Mitchell, for $36,761, for constructing brick work for main central power station between Humbolt and 23d Sts.

SANTA ANA, CAL.—The Edison Electric Co. have given notice that they intend to rebuild and extend their gas distributing system.

STOCKTON, CAL.—C. L. Cory, Cons. Engr., 331 Pine St., San Francisco, Cal., has made plans and estimates of cost of a municipal electric light plant, to cost $160,000 and the issuance of bonds for the work will be voted on May 23.

CORONA, CAL.—Municipal electric plant proposed.

CRESCENT CITY, CAL.—Electric light and power franchise granted C. F. Riddle.

STOCKTON, CAL.—G. A. Atherton, Cy. Surv., writes that the council has passed to print the preliminary ordinance submitting to the voters the question of bonding the city for $160,000 for establishing a municipal electric plant. Prof. C. L. Cory, Berkeley, Cal., is Des. Engr.

LOS ANGELES, CAL.—It is announced that the Edison Electric Co., John B. Miller, Pres., and the United Electric Co. are to be merged. It is also said that several extensions and other improvements will be made.

TWEED, ONT.—Steinhoff & Gordon, Wallaceburg, Ont., have submitted a proposition to the council for furnishing electric light and power.

PRINCE ALBERT, N. W. T.—The contract for installing an electric plant for the town has been let to the Stuart-Arbuthnot Machinery Co., Winnipeg.

REGINA, N. W. T.—Jas. Balfour, Secy., writes us that John Galt, C. E., Toronto, Ont., has begun to prepare plans and estimates for establishing electric light plant and water-works and for improving drainage system.

BONDS.—Berlin, Pa., votes to issue $15,000 electric light plant.——Lumberton, N. C., by Mayor A. E. White, asks bids until May 11 for $10,000 electric light plant bonds.——Springfield, Tenn., votes May 22 on $35,000 issue of bonds to put in electric light plant and water-works.——Brigham, Utah, is considering issue $10,000 electric light plant bonds.——Logan, Utah, can issue $65,000 of bonds for constructing electric light plant.——Lincoln, Neb., Beman C. Fox, Cy. Treas., asks bids until May 25 for $65,000 lighting plant bonds.——Corona, Cal., may vote June 8 on a $60,000 bond issue for establishing steam power and electrical plant.

NEW COMPANIES.—United Light, Power & Traction Co., Buffalo, N. Y.; $500,000; Ashley T. Cole, Louis B. Grant, New York; Joseph B. Mayer, Buffalo.——Choctaw Gaslight, Heat & Power Co., Nevada, Mo.; $150,000; O. H. Hess.——Snake River Electric Light & Power Co., Rexburg, Idaho; $100,000.——Panola Electric Light & Power Co., Batesville, Miss.; D. L. Rush, R. H. Bell; have acquired plants in Batesville and Sardis.——Norborne Electric Light & Power Co., Norborne, Mo.; $10,000; J. L. Wilson; Jas. W. Cunningham.——Indianapolis Light & Power Co., Indianapolis, Ind.; $10,000; H. Whitford Jones, Cleveland; Arthur B. Bogue, Greenwood, Ind.——Citizens Mutual Heating Co., Terre Haute, Ind.; $10,000; A. J. Crawford, Joseph Strong, A. Herz.——Oklahoma Electric Co., Oklahoma City, Okla.; $1,000,000; F. B. Ziegler, William Young, J. S. Alexander.——Washington Electric Gas & Fuel Co., Broderick, Cal.; $20,000; Alex. Fourness, A. G. Stoll, Wm. Wilson.——American River Electric Co., San Francisco, Cal.; $2,500,000; H. H. Ferns, H. A. Cooke, S. C. Scheeline.——Paxton Light, Heat & Power Co., Paxton, Ill.; $150,000.——Poden Valley Co., Pittsburg, Pa.; $200,000; to furnish light, heat, power and water; Thos. A. Watkins, Robt. Miller, Chas. L. Woolridge.

BRIDGES

(For foreign bridge work, see under "Mexico," and "Foreign Contracts and Export News.")

BANGOR, ME.—We are informed that surveys are now being made for a bridge at Water St. over the Kenduskeag. The plans will have to be acted upon by the council before steps are taken toward calling for bids. P. H. Coombs, Cy. Engr.

MADISON, ME.—This town and Anson have voted to purchase the steel bridge of the Norridgewock Falls Toll Bridge Co. for about $28,000.

SANFORD, ME.—The contract for a stone arch over Monsam River has been let to W. S. Butler for $1,150.

BURNSIDE, CONN.—An appropriation of $10,000 has been made for a stone arch bridge over the Hockanum River at this place, and C. H. Olmstead, C. E., East Hartford, Conn., has been engaged on plans for its construction.

GREIG, N. Y.—C. A. Lanos writes us that a bill has been before the Governor, awaiting his signature, for a bridge over Black River.

SYRACUSE, N. Y.—Frank J. Schnauber, Cy. Engr., writes us that the date is indefinite for receiving bids for a stone arch culvert over Harbor Brook at Hiawatha St. The estimated cost of the work is $6,000 and H. T. Beach, Syracuse, is Des. Engr.

MAHANOY CITY, PA.—A new stone bridge over Mahanoy Creek, this city, is contemplated.

MARTINS CREEK, PA.—It is stated that a new $50,000 toll bridge is to be built over the Delaware at this place.

WASHINGTON, D. C.—It is announced that the Pennsylvania R. R. Co. will remove the bridge which now crosses the Delaware River at Philadelphia to Washington, where it will be placed over the Potomac River. To take the place of the bridge at Philadelphia a four-track structure will be built.

WASHINGTON, D. C.—The Great Falls & Old Dominion Ry. Co. has deposited $25,000 with the district commissioners for widening the aqueduct bridge over the Potomac in order to bring the electric cars into the city. It is expected that bids will soon be asked for the work.

MARTINSBURG, W. VA.—J. L. Bender, Co. Clk., writes us that matter of extending county bridge 100 to 160 ft. was to have been considered April 27.

PIEDMONT, W. VA.—Contract for a bridge over Patterson's Creek at Rees' Mill has been let to the Canton Bridge Co., Canton, O., for $4,100.

DANBURY, N. C.—County commissioners are stated to have ordered construction of following iron bridges this year: Dan River, near Danbury; Little Yadkin River, Dalton; Town Fork Creek, Germanton.

JACKSONVILLE, FLA.—Bids are asked until May 20 for building a concrete-steel arch bridge over the railroad tracks at Bridge St., as is stated in our advertising columns. E. B. Pleasants, Ch. Engr. Atlantic Coast Line Ry., Byrd St. Station, Richmond, Va.

BREWTON, ALA.—Contracts for two bridges are stated to have been let to F. M. Dobson for a total of $6,000.

WEDOWEE, ALA.—The county commissioners are to build a bridge over Tallapoosa River, near Louina.

OAK RIDGE, LA.—Bids are asked until June 3 for constructing 150-ft. steel bridge; bidders to furnish own plans and bridge to cost not more than $1,500. J. S. Rolfe.

MEMPHIS, TENN.—The city budget carries an appropriation of $150,000 for bridges and street work.

MEMPHIS, TENN.—The Cornell Construction Co., Newark, N. J., which is constructing the Memphis & Gulf R. R., is stated to have announced that specifications would be made soon for the necessary bridge work. Among the structures to be erected will be one 400 ft. long and another 800 ft. long, both with draw spans, to be built across the Tombigbee and Alabama rivers, near Pensacola.

WARTBURG, TENN.—Morgan county is stated to be preparing to build a bridge over the Emiry River at Oakdale.

MT. VERNON, O.—Bids are asked until May 16 for 100-ft. span superstructure for Banning Bridge in Morris township. A. C. Collins, County Auditor.

ZANESVILLE, O.—Contracts for steel bridges have been let as follows: Marquand Mills bridge, Huston & Cleveland, $3,150; Roseville bridge, E. J. Landor, $3,500; Salt Creek bridge, Mt. Vernon Bridge Co., $4,780.

BLUFFTON, IND.—Reports state that Lake Erie & Western R. R. will build a steel bridge over the Wabash north of this place, at a cost of $10,000.

BOONVILLE, IND.—Reports state that bids are asked until May 4 for constructing iron bridge in Pigeon township. R. D. O. Moore, County Auditor.

COLUMBUS CITY, IND.—Bids are asked until May 8 for material and labor for steel bridges over Madrun Ditch, 32 ft. long and one 18 ft. long over Smith & Hinney Ditch. Chas. E. Lancaster, County Auditor.

COVINGTON, IND.—Fountain and Vermillion counties are said to propose to construct a bridge over the Wabash River near Waterman and Silverwood.

CROWN POINT, IND.—County commissioners are to build bridge over Calumet River at Hammond.

LA GRANGE, IND.—Bids are asked until May 5 for a 90-ft. bridge over Pigeon River, a 120-ft. iron bridge in Lima township; also stone abutments for five bridges.

NEW CASTLE, IND.—A contract for building county bridges has been let to the Pan-American Bridge Co. for $20,000.

PRINCETON, IND.—Henry R. Embree writes us that White River township has voted to issue bonds for bridge. The bridge is to be built over the White River at Hazleton, and, reports state, will cost about $50,000.

RICHMOND, IND.—County commissioners are to re-advertise for bids for construction of three bridges, the bids previously received for this work having been rejected.

SULLIVAN, IND.—Bids are reported as called until May 8 for constructing 11 steel or concrete bridges. J. M. Lang, County Auditor.

WINAMAC, IND.—Bids are stated to be asked until May 5 for constructing a two-span iron truss bridge, 221 ft. long with 16-ft. roadway, over Tippecanoe River, in Tippecanoe. Ellis S. Rees, County Auditor.

DETROIT, MICH.—Preliminary surveys are to be begun at once to determine the feasibility of constructing an international bridge over the Detroit River. The Michigan Central, Grand Trunk and Pere Marquette railways are interested and have employed George S. Morrison, 35 Wall St., New York, N. Y., to report on the matter.

JACKSON, MICH.—The contract for a single arch bridge over Main St. has been let to R. Dunn, Detroit, Mich., for $13,935.

DECATUR, ILL.—Three county bridges are to be built in Blue Mound.

PEKIN, ILL.—The contract for building the abutments of the bridge over the Mackinaw on the Honedale and Tremont road has been let to the Arthur Bridge Co., Arthur, Ill., for $2,100; the contract for the superstructure was let to the Illinois Bridge Co., Sullivan, Ill., for $2,850.

JOLIET, ILL.—County commissioners have been petitioned for a bridge at Monee to cost $1,300.

TREMPEALEAU, WIS.—Reports from here state that the Chicago, Burlington & Quincy Railway bridge near Lytes was destroyed by fire recently, causing a loss of $100,000.

MADISON, NEB.—Mayor T. F. Memminger writes us that no action has been taken yet by the county board for three one-span steel bridges on Elkhorn River. The board is considering ways to raise money for erecting the bridges.

OMAHA, NEB.—Bids are asked until May 12 for constructing all wooden bridges, of 20 ft. or more, and approaches, ordered by the county commissioners; also repairing as may be ordered; all for a term of one year. Chas. Dorman, Chn. County Comrs.

LIVINGSTON, MONT.—Bids are reported as called by county commissioners until June 3 for constructing Shields River bridge. Bids previously received for this work were considered excessive and consequently rejected.

PUEBLO, COLO.—Pueblo Bridge Co. has received the contract for erecting a steel bridge over the Arkansas River. The contract price was $12,000.

ASTORIA, ORE.—It is stated that the Macanicum bridge at Seaside is to be at once rebuilt. The bridge consists of a 500-ft. trestle with a 40-ft. span. C. J. Trenchard is County Judge.

EUGENE, ORE.—Bids are asked until May 6 for building bridge over Coast Fork River at Cottage Grove. The bridge is to have an 87-ft. span and is to be of the Howe truss pattern with double bent piers at each end. A 50-ft. approach is required and an 18-ft. roadway. C. M. Collier, County Surv.

PORTLAND, ORE.—The city engineer has been instructed to prepare plans for steel bridges across Marquam and Sullivan Gulches. The structures will be about 500 ft. long, 60 ft. wide and 70 ft. high at the center, and will cost about $32,000 each.——The matter of building a steel bridge over the Williamette River at a cost of $400,000 is to be voted on at a special election in June. The bridge proposed is 1,350 ft. long, 60 ft. wide and will have a 135-ft. draw span.

SALEM, ORE.—Bids are asked until May 8 for building three county bridges and making a fill. B. B. Herrick, Jr., County Surv.

HAYWARDS, CAL.—Bids are asked until May 4 for constructing concrete bridge to replace old wooden bridge on the San Ramon road in Eden. John P. Cook, Clk.

SANTA BARBARA, CAL.—Bids are asked until May 4 for constructing bridge over Dos Pueblos Creek. C. A. Hunt, County Clk.

SAN BERNARDINO, CAL.—City trustees have been considering matter of bridge over Warm Creek on Valley St.

HALIFAX, N. S.—Plans are said to be under way for the proposed bridge of the Eastern Railway over the Narrows. The bridge is to carry steam railway and tramway tracks, roadway for teams and a path for foot passengers. Its cost is estimated at over $200,000.

MONTREAL, QUE.—The Pere Marquette International Bridge Co. has asked for incorporation with power to build a general purposes bridge over the Detroit River, near Amherstburg. J. H. Coburn, Walkerville, Que., is one of the petitioners.

BROMPTON, ONT.—Bids are asked until May 9 for building abutments and overhead steel bridge over River Credit in Streetsville. The bridge is to have a 120-ft. long span and a 14-ft. driveway. John McCauley, Chn. Com.

PEMBROKE, ONT.—S. E. Mitchell, County Clk., writes us that James L. Morris, County Engr., has been instructed to prepare plans and specifications for a one-arch

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

stone bridge, also for stone abutments with steel superstructure and submit same to county council in June. The bridge is to span the Indian River and is not to be a very elaborate structure.

OTTAWA, ONT.—The Minister of Railways and Canals is being asked to construct a bridge at Andrewsville over the Rideau River, on the county line between Greenville and Carleton.

PLYMPTON, ONT.—Bids are asked until May 9 for constructing iron bridge, 65-ft. span, on stone or concrete abutments. Hugh Montgomery, Reeve, Wyoming, Ont.

VANCOUVER, B. C.—The Canadian Pacific R. R. is stated to have let contracts for 240 steel bridges to replace old wooden bridges now in use on their lines on the coast to the following companies: Canada Foundry Co., Dominion Bridge Co., Hamilton Bridge Co., King Bridge Co.

SURREY, B. C.—Bids are asked until May 10 for constructing draw bridge over Serpentine River on the Mud Bay Road. Daniel Johnson, Reeve, of Surrey, Mud Bay, B. C.

VANCOUVER, B. C.—W. T. Farrell is said to have made plans for a suspension bridge to span Capilano Canyon at a height of 200 ft.

BUILDINGS.

(For foreign building operations, see under "Mexico," and "Foreign Contracts and Export News.")

ATTLEBORO, MASS.—Bids are asked by school board until May 5 for extension to high school building, at Bank and Peck Sts. C. E. Bliss, Chn., 20 Peck St.

MARLBORO, MASS.—The aldermen have voted to build new city hall, cost not exceeding $75,000.

NORTH CHELMSFORD, MASS.—Bids are asked by county commissioners until May 5 for constructing dormitory building at the truant school. H. P. Graves, Arch., 40 Middlesex St., Lowell.

PITTSFIELD, MASS.—The school committee has recommended erecting a 2-story brick school building on Orchard St., at cost of $50,000.

QUINCY, MASS.—Bids are asked by Ancient Order of Hibernians until May 1 for erecting building. McLean & Wright, Archs., 110 Tremont St., Boston. Address P. Fay, 30 Brooks Ave.

WEBSTER, MASS.—Competitive plans will soon be asked for new $60,000 high school building. Dr. F. A. Brown is Chn. School Com.

BURRILLVILLE, R. I.—Bids are asked until May 14 for constructing sanitarium. C. A. Potter, Chn. Commission.

PROVIDENCE, R. I.—The Boston Bridge Works Co. received the iron and steel work contract for the new $400,000 armory at Cranston and Dexter Sts.

BUFFALO, N. Y.—The University Club will erect a $75,000 club house at Delaware Ave. and Allen St.

DOBBS FERRY, N. Y.—A new court house is being discussed.

BINGHAMTON, N. Y.—A $500,000 office building will be erected at Water and Court Sts.

NEW YORK, N. Y.—Bids are asked by board of estimate until May 15 for erecting interior marble work in the Hall of Records at Chambers, Center and Reade Sts. ——Weinstein Bros. will erect five 6-story flats, 43 × 100 and 38 × 97 ft., at 107th and 108th Sts., at cost of $290,000. G. F. Pelham, Arch.——A new building will be erected at Columbus Ave. and 70th St.——A 10-story brick flat, 51 × 115 ft., will be built at Fifth Ave. and 11th St.——The Old Colony Co. will erect a 12-story fireproof hotel at 17-21 West 32d St., at cost of $400,000.

NEW YORK, N. Y.—Plans have been filed by Sass & Smallheiser, Archs., 23 Park Row, for two 6-story brick tenements, 41 × 79 ft., at 324 to 330 East 19th St., for L. Spielberger, at cost of $80,000; by G. F. Pelham, Arch., for two 6-story brick tenements, 37 × 87 ft., at 97-101 Cannon St., for A. Elterman, at cost of $76,000; by G. F. Pelham, Arch., for five 6-story brick flats, 43 × 100 and 38 × 97 ft., at 107th and 108th Sts., for Weinstein Bros., at cost of $290,000; by H. Anderson, Arch., 1183 Broadway, for 10-story brick flat, 51 × 115 ft., at 11th St. and Fifth Ave., for W. E. Finn, 115 Broadway, at cost of $375,000; by Mulliken & Moeller, Archs., 7 East 42d St., for 12-story hotel, at 34-6 West 31st St., for the Rutgers Realty Co., 112 West 42d St., at cost of $350,000; by A. E. Badt, Arch., 3 Union Square, for 6-story flat, at 293 Avenue B, for A. Siegel, 184½ Seventh St., at cost of $60,000; by Israels & Harder, Archs., 31 West 31st St., for 6-story flat, at 213 Lexington Ave., for H. Singlie, Jerome Ave. and 184th St., at cost of $140,000; by Sass & Smallheiser, Archs., 23 Park Row, for 6-story flat at 78-80 Avenue B, for I. Ginsberg, 214 Clinton St., at cost of $50,000; by McKim, Mead & White, Archs., 160 Fifth Ave., for 6-story dwelling, at 37 West 36th St., for L. P. Satterlee, 80 Madison Ave., at cost of $100,000; by Bernstein & Bernstein, Archs., for 6-story brick flat, 47 × 61 ft., at Norfolk and Stanton Sts., for Baum & Lapin, 167 Rivington St., at cost of $45,000; by Neville & Bagge, Archs., 217 West 125th St., for 6-story brick flat, 75 × 87 ft., at 115th St., for P. Merrowitz, 202 West 131st St., at cost of $150,000; by G. J. Ebert, Arch., 82 Lawrence St., for 6-story brick flat, 99 × 112 ft., at 139th St. and Lenox Ave., for T. J. McGuire, 968 St. Nicholas Ave., at cost of $150,000; by G. F. Pelham, Arch., 503 Fifth Ave., for 6-story brick flat, 40 × 81 ft., at Attorney and Grand Sts., for A. Silverson, 236 East 61st St., at cost of $80,000; by A. E. Davis, Arch., 516 East 138th St., for 5-story brick piano factory, 50 × 115 ft., at 137th St., for J. Winter, 472 Mott Ave., at cost of $50,000; by Schwartz & Gross, Archs., for 6-story brick flat, 87 × 87 ft., at 148-152 West 104th St., for J. Paterno's Sons, at cost of $175,000; by Gillespie & Carroll, Archs., for 6-story brick flat, 60 × 87 ft., at 306-310 West 51st St., for B. House, at cost of $60,000.

THOMPKINSVILLE, N. Y.—Bids are asked until May 28 for constructing oil house at the General Light House Depot, as stated in our advertising columns. Major Wm. T. Rossell, U. S. A., Engr. Third Light House Dist.

JERSEY CITY, N. J.—P. H. Hanley will erect a 5-story brick and iron building at Newark Ave. and Cooper Place at cost of $45,000.

MUHLENBERG, PA.—Ritter & Smith, Allentown, received contract for erecting Muhlenberg College's main building, 65 × 495 ft., for $85,000. Bluestone and pink granolithic stone to be used.

GERMANTOWN, PA.—J. W. De Long, 1003 Real Estate Trust Bldg., writes us that bids are being received for erecting 6-story brick and stone apartment house, 92 × 90 ft. Cost, $100,000.

PHILADELPHIA, PA.—Mayor Weaver may recommend an appropriation for building new Manual Training School at Eighth St. and Lehigh Ave.; $200,000 has been appropriated, but $130,000 is still needed.——The Equitable Warehousing Co. will erect a 5-story brick warehouse, 86 × 184 ft., at Fifth and Willow Sts., to cost $50,000. C. S. Adams, Arch.

BERWICK, PA.—$60,000 appropriated for new city hall and improvement of sewer system.

SCRANTON, PA.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Department., Washington, D. C., until June 4, for constructing post office, etc., as stated in our advertising columns.

WILLIAMSPORT, PA.—Bids are asked until May 9 for constructing annex to court house. T. R. Winder, Clk. W. M. Schooley, County Comr.

BALTIMORE, MD.—Morrow Bros. received contract for erecting the Baltimore Bargain House's brick, stone and iron addition, 55 × 153 ft., on Fayette St., for $75,000. J. E. Sperry, Arch., 601 Herald Bldg.

SALISBURY, MD.—Plans are being completed for R. C. Powell & Co.'s 4-story brick and stone store building, 20 × 164 ft., costing $50,000. T. E. & H. R. Davis, Archs., 220 St. Paul, Baltimore.

WASHINGTON, D. C.—The Dominican Fathers will erect a 4-story building, 200 × 200 ft. Walls will be of Indiana limestone. Cost, $250,000. A. O. Von Herbulis, Arch.——Hornblower & Marshall, Archs., 1509 H St., are preparing plans for the Smithsonian 4-story granite museum, 345 × 486 ft., on B St. B. R. Green is Supt.——The new House of Representatives' office building will be built on site bounded by B. C and First Sts. and New Jersey Ave., and cost $6,000,000.

WASHINGTON, D. C.—See "Street and Electric Railways."

LYNCHBURG, VA.—An additional appropriation of $50,000 has been made for constructing cell building at the state penitentiary.

BERKLEY, VA.—C. R. Parlett, Norfolk, will erect an 8-story warehouse, 115 × 150 ft., for the Paul Garrett Wine Co., Weldon, N. C., at cost of $125,000.

WHEELING, W. VA.—Neuland & Wilson submitted the lowest bid, $57,482, for new high school building. Bids rejected, being too high. Estimated cost, $45,000.

EASLEY, S. C.—Bids are asked until May 2 for erecting the Cedar Rock Baptist Church. B. H. Williams, Chn. Com.

BIRMINGHAM, ALA.—Cullom Bros.' apartment house will be seven stories, 200 × 212 ft., and cost $750,000, including furnishings.

BIRMINGHAM, ALA.—Bids are asked until May 16 for constructing First Christian Church at Third Ave. and 21st St. D. A. Helmich, Arch., 306 North 19th St.

GADSDEN, ALA.—T. A. Stokes has received plans and specifications for a 5-story office building on Chestnut St. Low pressure steam and electric plants and elevators to be installed. J. B. Carr, Arch., Birmingham.

MONTGOMERY, ALA.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until June 1, for constructing court house, post office, etc., except heating apparatus, as stated in our advertising columns.

NEW DECATUR, ALA.—Bids are asked until May 1 for erecting new Catholic church. M. Henry, pastor.

JACKSON, MISS.—A new jail will be erected.

MONTICELLO, MISS.—Bids are asked until June 1 for constructing a county jail, as stated in our advertising columns. W. H. Sprights, Clk.

NEW ORLEANS, LA.—W. J. Hardee, Cv. Engr., writes us that legislation has been enacted and $488,216 provided for building improvements, in which is included a court house costing $400,000.

MEMPHIS, TENN.—An 8-story brick building, 85 × 100 ft., will be built at corner of Court and Second Sts., at cost of $200,000. G. A. Macon is Pres.

FRANKFORT, KY.—Bids are asked until May 1 for constructing dormitory at State Normal School for Colored Persons. H. V. McChesney, Chn. Bd. Trustees.

LOUISVILLE, KY.—It is reported that a site has been purchased by the Monon Ry. Co. upon which a freight depot will be erected. W. H. Newman is Gen. Agent.

CINCINNATI, O.—Contract will soon be let for American Book Co.'s $300,000 building.

CLEVELAND, O.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until June 8, for constructing post office, custom house and court house, as stated in our advertising columns. A. W. Brunner, Arch., 33 Union Square, West, New York N. Y.

CLEVELAND, O.—C. W. Schaeffer will erect a 4-story brick apartment house, 34 × 240 ft., at 1497 Euclid Ave., at cost of $60,000.

COLUMBUS, O.—Bids are wanted by F. L. Packard, Arch., 16 East Broad St., for the following works: April 23, five cottages and farm house for Ohio Hospital for Epileptics, Gallipolis; 24th, alterations in plumbing in buildings at State Soldiers' Home, Sandusky; 25th, St. Paul's Episcopal Church, Columbus; 27th, 6-suite flat for Mrs. Peter Schille, Columbus; 28th, 3-story warehouse for J. S. Morton, Gay and Fourth Sts., Columbus; 30th, flat for E. S. Wenis, Chillicothe, O.; May 1, 5-story bank and office building for Central Nat. Bank, Cambridge; 6th, remodeling Hayden-Clinton Nat. Bank Building, Columbus; 7th, residence for Coke L. Doster, Greenfield; 8th, residences for O. E. and C. W. Haldermon, Marion, Ind.; 9th, new building for Columbus Work House, Columbus; 13th, decorating, etc., senate chamber and house of representatives, Ohio State Capitol building; 16th, Methodist Episcopal Church, Chillicothe; 21st, Ohio building for World's Fair, St. Louis, Mo.; 11th, residence for Fred. H. Avery, Mt. Vernon; 12th, residence for Howard Johnson, Charleston, W. Va.; 18th, Eastwood Congregational Church, Columbus. Plans for Franklin County Memorial Hall will be ready at a later date.

MARIETTA, O.—Bids are asked by board of education until May 21 for furnishing sanitary plumbing, steam heating and ventilating system in Norwood school building. C. H. Danford, Clk.

SANDUSKY, O.—A hospital for tuberculosis patients is being discussed. Estimated cost is $200,000.

CRAWFORDVILLE, IND.—Plans and specifications for remodeling court house will be prepared by Geo. Griffith.

INDIANAPOLIS, IND.—The Indianapolis Terminal Co. and the Avers Dry Goods Co. will each erect a 10 to 14-story building.——A site for the Y. M. C. A. building has not yet been located. Address Secretary.

PETERSBURG, IND.—A petition has been presented the county commissioners providing for a $100,000 court house.

PRINCETON, IND.—Plans are being prepared for the Carnegie Library building. Address Library Com.

TERRE HAUTE, IND.—Bids will soon be asked for constructing the new Manual Training School. Cost, $50,000.

LANSING, MICH.—The senate passed the bill appropriating $40,000 for state normal school.

BLOOMINGTON, ILL.—Bids are asked until May 11 for constructing court house.

CHICAGO, ILL.—G. L. Murchee will erect an 11-story building, 177 × 297 ft., at cost of $1,000,000.——Wm. Strippelman, Arch., 153 La Salle St., has prepared plans for C. C. Heisen's 5-story building, 80 × 183 ft., on Kinzie St. Cost, $60,000.——R. C. Berlin, Arch., 131 La Salle St., has completed plans for a 4-story school building, 80 × 132 ft., at Leavitt and 18th Sts. Also a 3-story factory and a 2-story boiler house and heating plant. Cost, $125,000.——The T. Nicholson & Sons Co. received contract for erecting the 17-story Railway Exchange building, at Jackson and Michigan boulevards, for $2,000,000.——Chas. Matthews will erect a 3-story apartment house, 100 × 160 ft., on Michigan Ave., at cost of $50,000.

EVANSTON, ILL.—A 3-story apartment house will be built at Oak and Grove Sts. by Col. R. Williams, Wilmette, at cost of $60,000. J. S. Woollacott, Arch., 100 Randolph St.

PEORIA, ILL.—The Wilson Grocery Co. will erect a 7-story black brick building, 90 × 170 ft., at Oak and Washington Sts., at cost of $75,000. H. E. Hewitt, Arch.

YATES CITY, ILL.—Bids are asked until May 2 for constructing Presbyterian Church. J. G. Beadle, Arch., Galesburg. C. M. Bliss, Chn. Bldg. Com.

MILWAUKEE, WIS.—Hermann Nunnemacher may erect a building on Terrace Ave. at cost of $75,000.

DAVENPORT, IA.—The Builders' Lime and Cement Co. will erect warehouse.

BOYDEN, IA.—John Cullum, Sheldon, received contract for erecting new bank building.

BURLINGTON, IA.—Kabaker & Namann will erect a 2-story brick building, 40 × 100 ft., at Main and Locust Sts.

FORT DODGE, IA.—Reports state that the Illinois Central Ry. Co. will erect a 4-story station at cost of $150,000.

MONTEZUMA, IA.—Bids are asked until May 4 for erecting addition to high school.

REMSEN, IA.—A $75,000 Catholic Church is projected.

SIOUX CITY, IA.—Wm. Gordon will erect a brick building, 100 × 100 ft., at cost of $50,000.

MINNEAPOLIS, MINN.—H. N. Leighton Co. received contract for addition to federal building, for $224,725.

ST. PAUL, MINN.—Bids are asked by James Knox Taylor, Supervis. Arch., Treas. Dept., Washington, D. C., until June 10, for alterations to custom house, as stated in our advertising columns.

EMPORIA, KAN.—Bids are asked by county commissioners until May 12 for constructing jail and sheriff's residence. C. W. Squires, Arch., 613 Exchange St. W. F. Eggers, County Clk.

FLANDREAU, S. D.—Bids are asked by the Commissioner of Indian Affairs, Department of Interior, Washington, D. C., until May 6, for constructing brick warehouse and office, brick shop and frame laundry building at Indian School. C. F. Peirce, Supt. Indian School.

ROLLA, MO.—Bids are asked until May 11 for completing main building of State School of Mines. J. D. Vincil, 510 Pine St., St. Louis. Van Brunt & Howe, Archs., Kansas City.

ST. LOUIS, MO.—Adolph Lopen will erect a 7-story brick and stone office building at 11th St. and Lucas Ave., at cost of $200,000.——Strehlow & Phelps received contract for erecting the Missouri state building, for $105,480.

ST. LOUIS, MO.—Bids are asked by the Ohio Commission until May 21 for constructing the Ohio Building. F. L. Packard, Arch., New Hayden Building, Columbus, O. S. B. Rankin, Executive Comr.

LITTLE ROCK, ARK.—Plans and specifications for erecting two annexes to the Arkansas State Lunatic Asylum will be received until May 12. Cost not to exceed $140,000. J. H. Page, Secy. Bd. Trustees Charitable Institutions.——A 5-story granite office building will be erected on the site of the Northern Bank building, at cost of $150,000.

BEAUMONT, TEX.—Bids will be called for within a few days for constructing a new freight and passenger station here for the Texas & New Orleans Ry. E. B. Cushing is Engr. M. of W., Houston.

EL PASO, TEX.—A union depot will be erected at cost of $150,000. General Manager Faulkner, of the Santa Fe Ry. Co. is interested.——A company is being organized for the purpose of erecting a $200,000 stock exchange building.

GALVESTON, TEX.—The Sacred Heart Church will be rebuilt at cost of $50,000. Brother Jiminez in charge.

COLORADO SPRINGS, COLO.—The Myron Stratton Home for the Poor will be erected at cost of $1,000,000.

FORT COLLINS, COLO.—F. C. Carpenter writes us that the legislature has appropriated $40,000 for erecting the 2-story State Agricultural College, 60 × 120 ft. An additional sum will be appropriated to complete and equip the building.

BUCKLEY, WASH.—Bids are asked by school board until May 4 for constructing annex to Central school building. S. L. Sergeant, Clk.

SEATTLE, WASH.—A site has been purchased for a new court house.——M. Umbrecht, Arch., will prepare plans for J. W. Clise's $100,000 building.

SPOKANE, WASH.—Hastie & Dougan received contract for buildings at Fort Worden for $71,048.

TACOMA, WASH.—Russell & Heath, Archs., have stated that the cost of remodeling the Tourist Hotel for school purposes will be $153,700.

BAKER CITY, ORE.—Reports state that a city hall building will be erected at cost of $45,000.

PORTLAND, ORE.—S. S. Bailey, Seattle, Wash., contemplates erecting a 7-story hotel at cost of $500,000.

ROSEBURG, ORE.—Bids are asked until May 4 for erecting a 2-story brick building. D. P. Gingrich.

LOS ANGELES, CAL.—R. B. Young, Arch., 827 West Seventh St., has prepared plans for a 6-story brick building, 65 × 150 ft., at Fourth and Fifth Sts., for A. J. Johnson. Cost, $50,000.——It is stated that the estate of G. D. Rowan and O. W. Churchill plans for the erection of a 7-story brick office building at Sixth and Broadway, at cost of $100,000.——Local papers state that Cowen & McMann will erect a hotel at Alvarado and Sixth Sts., at cost of $70,000.——The Episcopalians will erect hospital at Bixel and Sixth Sts., at cost of $75,000.

PASADENA, CAL.—J. F. Atkinson received the contract for erecting high school building on North Euclid and Los Robles Aves., for $74,777.

SANTA BARBARA, CAL.—Mathew Slavin, Pasadena, received contract for erecting the 2-story brick Howard-Canfield building, 127 × 150 ft., on State St., for $58,288, exclusive of plumbing. John Parkinson, Arch.——It is stated that C. G. Emmery will erect a $750,000 hotel.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

JACKSON, CAL.—Bids are asked by the supervisors until May 4 for repairing court house and hall of record. C. L. Culbert is Clk.

POCATELLO, IDAHO.—Bids are asked by board of trustees until May 12 for erecting dormitory to the Academy of Idaho. C. G. Rose, Secy. pro-tem.

WELLSVILLE, UTAH.—A $50,000 brick building will be erected. E. R. Owen is interested.

SACKVILLE, N. B.—B. C. Borden, Principal, writes us that Jas. Reed received the contract for constructing the brick and stone addition to Mount Allison Ladies' College for $40,000.

ST. JOHN, N. B.—The warehouses at Sand Point which were burned at loss of $50,000 will be rebuilt.

TORONTO, ONT.—A. J. Small, 51 Glen Road, writes us that the Toronto Opera House will be of brick and stone, fireproof, four stories, 60 × 208 ft., and cost $100,000. Structural iron and steel, electric light and passenger elevator installed. W. S. Painter, Arch.

WINNIPEG, MAN.—Bids are asked until May 15 for erecting a stone church. Address J. J. W. Bell, Hickspale P. O., Assa.

BONDS.—Redlands, Cal., will issue $60,000 for Union High School District.——Bids are being received for the purchase of $75,000 school bonds, Lakewood, O.——Seattle, Wash., will probably issue $300,000 to $400,000 school bonds.

WATER SUPPLY AND IRRIGATION.

(For foreign water supply and irrigation, see under "Mexico," and "Foreign Contracts and Export News.")

BRUNSWICK, ME.—Local plant of Maine Water Co. is being valued for purchase by town should latter decide to adopt system of municipal ownership. Weston Thompson is Pres. Water Bd.

PROCTOR, VT.—Voted to improve works.

EASTHAMPTON, MASS.—E. G. & E. E. Davis, Cons. Engrs., Northampton, Mass., have been engaged to make surveys and estimate of cost of storage reservoir on Bassett Brook.

ENFIELD, MASS.—The contract for laying about five miles of water pipes, setting hydrants, gate valves, etc., for village works, has been let to Eglee Bunting Co., Boston, Mass., for $6,509.

HOLYOKE, MASS.—Bids are asked until May 11 for furnishing 600 tons 20-in. cast-iron pipe and special castings, as stated in our advertising columns. Jas. L. Tighe, Engr.; John J. Sullivan, Water Comr.

LAWRENCE, MASS.—We are informed that nothing but preliminary surveys have as yet been made for the new filter bed. It is not at all certain that the work will be done this year. However, plans will probably be made and everything prepared to commence work as soon as the money is appropriated. Arthur D. Marble, Cy. Engr.

NEWBURYPORT, MASS.—Water commissioners have been notified that water from Artichoke River could be used after filtering. The commissioners have also received a proposition to increase the supply 500,000 gallons a day by means of artesian wells.

PALMER, MASS.—The selectmen have reported an estimate of $10,000 for pipe line and hydrants for system in Thorndike, Three Rivers and Bondville.

REVERE, MASS.—Town was to vote April 27 on purchase of Revere Water Co.'s works.

SHELBURNE FALLS, MASS.—Gravity system of water supply for fire protection recommended. The reservoir required would cost about $7,000.

SOUTH GROVELAND, MASS.—Legislature has passed bill permitting town to build works; matter must be voted on before action can be taken.

UXBRIDGE, MASS.—The water committee will report May 2 on building a reservoir at Croney Brook, to cost $5,000, and also on joining with Northbridge in water-main extensions.

PROVIDENCE, R. I.—Estimates of costs of a new pumping engine for the Pettaconsent station are being made. It is also said that a third force main, thus doing away with the present stand-pipe, is contemplated. The pumping engine would cost about $70,000, and the force main, of 36-in. c.-i. pipe, about a mile long, would cost $50,000.

HARTFORD, CONN.—We are informed, under date of April 25, that nothing has been done as yet toward securing bids on proposed Connecticut River filtration plant. W. D. Berry, Secy. Water Bd.

NORWALK, CONN.—The following bids have been received by the water commissioners for laying about five miles 16-in. water main: A. C. Sternberg, Hartford, Conn., $32,340; Leonard Blondel, Stamford, Conn., $28,900; F. H. Fagan & Co., Derby, Conn., $24,695; Frank Pidgeon, Saugerties, N. Y., $24,532; Peter Sweeney, Danbury, Conn., $24,430; Patrick Goodman, New York city, $23,060; Edward Tracy, Derby, Conn., $22,530; George W. Cram, Norwalk, Conn., $21,747; F. N. Lewis, New York., $19,642; J. D. Murray, New Brunswick, N. J., $19,246; F. A. Van Buren & Co., Norwalk, Conn., $18,420; B. D. Pierce, Jr., Co., Bridgeport, Conn., $18,267; Geo. C. Lockwood, Norwalk, Conn., $17,474; Fred. T. Ley & Co., Springfield, Mass., $17,047; J. A. Sylvester, New York., $16,722; Eglee-Bunting & Co., Boston, Mass., $16,465; H. A. Parsons, Stamford, Conn., $16,334; R. L. Christie, New York, $16,037; R. D. Lewis & Co., New York, $15,998; Charles N. Taylor, Wellesley, Mass., $15,417; Salvatore Chariott, South Norwalk, Conn., $15,340; Dudley E. Hoyt, South Norwalk, Conn., $11,760.

ALEXANDRIA BAY, N. Y.—H. A. Cornwall, Pres., writes us that bids will probably be called within the next 30 days for new village water-works. F. A. Hinds, Watertown, N. Y., is Des. Engr.

FISHKILL LANDING, N. Y.—It is stated that the water plant will be sold at foreclosure sale at Poughkeepsie, May 8. The plant was built 17 years ago at a cost of $90,000. The Central Trust Co., New York, N. Y., is the mortgagee. It is said that a new company, headed by Assemblyman Smith, is being formed to furnish water.

GOVERNOR'S ISLAND, N. Y.—Bids are asked until May 13 for laying 6-in. water main with proper connections as stated in our advertising columns. T. Norcross, Q.M.

MEDINA, N. Y.—The acquirement by the village of the present water plant is recommended by a special committee.

PORT JEFFERSON, N. Y. (L. I.)—The contract for a water supply has been continued with the Port Jefferson Water Co. for a ten-year term. The company is also to supply the Long Island R. R. Co., and to do so will lay about ½-mile of mains.

SCHENECTADY, N. Y.—Contracts for water mains in the Ninth and Tenth Wards have been let as follows: Pipe, Miller & Co., Utica, N. Y., $20,000; laying pipe, Joseph Clements, $6,587; valves and gate boxes, Rensselaer Mfg. Co., Troy, N. Y. Bids are to be called for a new pump and additional machinery at the pumping station.

YONKERS, N. Y.—Bids are asked until May 21 for constructing a water filtration plant, as advertised in Engineering News. Joseph H. Beall, Pres. Bd. Water Comrs.

MONROE, N. J.—Franchise for laying pipes granted to Monroe Water Co.

WILLIAMSTOWN, N. J.—Permission has been granted Monroe Water Co. to lay mains in the township.

ALLENTOWN, PA.—Contract for 10,000,000-gallon pump has been let to the Holly Pump Co., for $34,500.

PITTSBURG, PA.—A syndicate represented by W. A. Shoemaker is said to have a proposition for leasing the city water-works for 50 years. It is proposed to provide filtered water, install meters and pay the city at least $500,000 a year for operating the system. The city will be given an option to take back the plant at the end of ten years if the service is not satisfactory.

WILMINGTON, DEL.—In our issue of April 16 we stated that contracts for new reservoirs and filtration plant had been let to the United States Sand Filtration Co., Stevenson Bldg., Indianapolis, Ind. We are now informed by Joseph Bond, Engr. and Supt. W.-W., that no such contract has been let, and from late press reports we learn that the contract secured by the above-mentioned company was for preparing the plans and estimates and not for doing the construction work.

EASTON, MD.—Town votes on works May 4.

WASHINGTON, D. C.—The General Land Office Commissioner has ordered withdrawn from settlement about 200,000 acres of land in New Mexico, which come under the Urton Lake irrigation project. Small tracts were also temporarily withdrawn in connection with the Pecos Reservoir scheme in New Mexico, the Grand River and Gunnison tunnel project in Colorado and the Colorado River irrigation plan in California.

BRISTOL, VA.—Reservoir and stone dam are to be constructed, $15,000 bonds having been voted for that purpose.

BENWOOD, W. VA.—Wilbur Schofield, Supt. Benwood Water Co., writes us that all bids received April 17, for constructing covered concrete reservoir, were rejected and the reservoir will be constructed by the company, under the supervision of L. E. Chapin, C. E., Canton, O.

HINTON, W. VA.—Rippe, Brightwell and Cook Bros. are said to have sold the local water-works plant for $51,000.

WHEELING, W. VA.—The water company has let a contract to George Bauer, Pomeroy, O., for constructing a reservoir for about $15,000.

ATLANTA, GA.—The city has purchased a site on the Howell's Mill road for a reservoir, and an election was held April 22 to vote on a $400,000 bond issue for its construction. Evan P. Howell is Mayor.

JASPER, ALA.—J. H. Crawford writes us that he is only commencing on his new works, and will not do much for a few months, as he wishes to test his source of supply through one summer.

TUSCALOOSA, ALA.—Two suits are reported to have been filed against the Tuscaloosa Water-Works Co. to annul the charter and dissolve the corporation.

CROWLEY, LA.—Reports from here state that pumping plant of the Millerville Irrigation Co. has been destroyed by fire.

DYERSBURG, TENN.—We are informed that the following bids were received April 9 for a 27 × 50 ft. stand-pipe, foundations not included: Granbery Jackson, Engr.: Tippett & Wood, Phillipsburg, N. J., $5,245; Riter-Conley Mfg. Co., Pittsburg, Pa., $5,070; Petroleum Iron Works, Washington, D. C., $4,157; Walsh & Weidner, Chattanooga, Tenn., $4,100; Nashville Bridge & Construction Co., Nashville, Tenn., $3,985; Chicago Bridge & Iron Co., Chicago, Ill., $3,788 (awarded contract); Lookout Boiler & Mfg. Co., Chattanooga, Tenn., $3,609; Meons & Fulton Iron Works, Birmingham, Ala., $3,402.

BARBERTON, O.—City works discussed.

NAPOLEON, O.—N. F. Clark, Supt. W.-W., has made plans for running the water-works plant by power developed by the Erie Canal. It is said that if some such system is not adopted new engines will have to be put in.

WELLSVILLE, O.—We are informed that contracts for water-works equipment, bids for which were called Feb. 6, have been let as follows: E. C. Taylor, Secy.: Deane Steam Pump Co., Holyoke, Mass., two pumps, $31,445; feed pumps, piping, etc., $2,525; Stirling Boiler Co., Barberton, O., two 200-HP. boilers, $5,575; J. E. Passett, Wellsville, O., stack, $1,200; Cleveland Crane & Car Co., Wickliffe, O., 20-ton crane, $1,725. Bids for building and pipe laying are not yet called for.

ANDERSON, IND.—The New York Continental Jewell Filtration Co., New York, is stated to have offered to construct an alum filtration plant for the city for $85,000.

NEW ALBANY, IND.—Suit is said to have been brought against the New Albany Water Co. by city, to secure the forfeiture of its charter.

BLOOMFIELD, IND.—E. H. Dugger & Co. have secured franchise and plans are being made for works.

SHELBYVILLE, IND.—The contract for furnishing city with water and light has been let to the Shelbyville Water & Light Co. for a total of $10,170.

CHICAGO, ILL.—Bids are asked by the board of local improvements until May 7 for laying and constructing water supply pipes in 11 streets. Andrew M. Lynch, Pres.

ELGIN, ILL.—The contract for constructing the tunnel and shaft system at the artesian wells has been let to Bracey, Howard & Co., for $25,945.

NAPERVILLE, ILL.—We are informed that matter of water-works will not be taken up for about two months.

MUSCODA, WIS.—Village has been considering works; John N. Swingle is Pres.

DES MOINES, IA.—A press report quotes Secretary Denman as saying that the Des Moines Water-Works Co. expects to lay practically all of the six miles of mains ordered by the city council last fall.

IOWA CITY, IA.—Improvements are contemplated by the Iowa City Water Co., at a cost of $20,000. The pump house will be improved and a new 5,000,000-gallon pump installed. The mains will also be extended. F. D. Garretson, San Diego, Cal., is interested in the company.

ONAWA, IA.—Works projected.

PARNELL, IA.—Works voted for.

ROCK RAPIDS, IA.—City will vote May 18 on buying local works for $15,000.

RED LAKE FALLS, MINN.—It is stated that city will grant 30-year franchise to company making best offer for putting in water-works.

VINITA, KAN.—Works proposed.

ST. CLOUD, MINN.—St. Cloud Water-Works Co. has offered plant to city for $55,000. It is said that improvements, costing $50,000, are wanted.

PEABODY, KAN.—The Rock Island R. R. is to build a reservoir, the masonry of which will cost $32,000, at this place.

SPENCER, S. DAK.—Works agitated.

BELGRADE, MONT.—Alexander Freeman is stated to have asked for franchise for works.

MARSHALL, MO.—A. R. James, Cy.Clk., writes us that the city was to vote April 28 on $40,000 bond issue to purchase local works.

DEL RIO, TEX.—We are informed that engineers are on the ground with view of locating an irrigation canal, which is to be operated partly by gravity and partly by pumping. The route has not been determined nor has the machinery been contracted for. G. Bedall Moore is owner.

PAWHUSKA, OKLA.—Bids are asked at Osage Indian Agency for repairing reservoirs and cisterns, and building two filters at Osage Boarding School. O. A. Mitscher, U. S. Indian Agent.

STROUD, OKLA.—Works being discussed.

TUCUMCARI, N. MEX.—The local water company, it is stated, will put up several tanks and lay water mains.

CHELAN, WASH.—It is stated that the Chelan Water Power & Electric Light Co. will construct an extensive irrigation and water-works system. Two reservoirs will be built.

NORTH YAKIMA, WASH.—The Yakima Land & Live Stock Co., M. N. Knuppenburg, Secy., has had preliminary surveys made for a ditch to irrigate land in Moxee county.

SEATTLE, WASH.—Council has ordered Rainer Ave. water main system constructed at cost of $48,524.

TACOMA, WASH.—The contract for wooden pipe for the South Tacoma water main extension has been let to the Washington Pipe & Foundry Co., for $12,790.——City engineer has been ordered to make plans for a 6-in. water main on Yakima Ave., from 37th to 40th St., and for an 8-in. main from 40th to 48th St.

LONG BEACH, CAL.—Stockholders of Citizens' Light, Water & Power Co., John Carroll, Pres., will vote May 21 on bond issue of $100,000 for purchasing water rights and water-works.

LOS ANGELES, CAL.—E. V. Baker has secured a franchise for laying a pipe line for domestic and irrigation water.——The city is said to be planning to build next year a 120-acre reservoir near Ivanhoe for irrigation purposes.

ETIWANDA, CAL.—The Etiwanda Water Co. has purchased 1,000 acres of water-bearing land in Day Cañon.

SANTA BARBARA, CAL.—It is proposed to issue $284,000 of bonds for various improvements. Of this sum $200,000 is to go for the extension of the tunnel through the Santa Ynez Mountains and the construction of water-supply reservoirs.

SAN LUIS OBISPO, CAL.—Bids are asked until May 4 for reconstruction and paving of city reservoir. Geo. W. Robbins, Cy.Clk.

SUISUN CITY, CAL.—Works to be improved.

TUCSON, ARIZ.—Bids are asked until May 20 for furnishing 4,000,000-gallon pumping engine, as stated in our advertising columns. Mayor C. F. Schumacher, Chn. Water Com.

BOISE, IDAHO.—It is stated that Canyon Canal Co. has secured financial backing and will construct about 31 miles of main canal. The cost of the enterprise will be about $250,000.

LEWISTON, IDAHO.—The following bids were received for constructing the upper reservoir: Huber & Frazier, brick, $10,762; stone foundations, $9,689; H. T. Madgewick, $9,500. The bids were rejected and new bids called which were to be opened April 25.

RICHFIELD, UTAH.—The contract for furnishing city with pipe for water system has been let to the Crane Co., Chicago, Ill., for about $18,000.

SALT LAKE CITY, UTAH.—The Spanish Fork Irrigation & Reservoir Co. is said to contemplate the construction of a reservoir in Strawberry Valley capable of holding 10,890,000,000 cu. ft. of water. The necessary dam will be 75 ft. high and will cost $140,000. A 3½-mile tunnel will also be excavated. J. S. McBeth, Payson, Utah, and W. O. Creer, Spanish Fork, Utah, are among those interested.

LEVIS QUE.—Contract for constructing water-works here will probably be let to Dussault & Powell.

BURK'S FALLS, ONT.—$20,000 works planned.

HAMILTON, ONT.—High-level reservoir proposed.

NIAGARA FALLS, ONT.—New pump proposed, to cost $12,000.

FORT WILLIAMS, ONT.—Willis Chipman, Cons. Engr., Toronto, Ont., has made estimates of cost of three different systems of water-works for this place, as follows: Gravity system, $133,000; pumping from filter basins constructed on the shore of Thunder Bay, $90,000; pumping from Current River, $90,000.

OTTAWA EAST, ONT.—Works planned.

PORT ARTHUR, MAN.—$50,000 works to be voted on; supply to be taken from Thunder Bay and pumped to reservoir.

VICTORIA, B. C.—Contract for 350 meters has been let to W. Bownass for $3,745.

BONDS.—Proctor, Vt., may issue $100,000 water and sewer bonds.——Buffalo, N. Y., has been authorized to issue $500,000 of bonds for extending water-works.——Islip, N. Y., votes $69,000 bond issue for water system extension.——Bristol, Va., will float $15,000 water-works construction bonds.——Hawkinsville, Ga., votes to issue $40,000 of bonds for building works and sewerage.——Columbus, O., bond issue recently voted has been declared legal; the issue was made up as follows: Sewers, $175,000; water distributing system, $50,000; workhouse extension, $35,000; east side market repairs, $25,000; bridge and viaduct repairs, $12,000. Martin Gemuender is Secy. Sinking Fund Comn.——Vermillion, O., votes to issue bonds for installing works.——Standish, Mich., votes $20,000 bonds for works, electric lights and other purposes.——Fennimore, Wis., votes to issue bonds.——Goodline, Minn., by B. Featherstone, Village Recorder, will receive bids until May 1 for $8,400 water-works bonds.——Wilmot, S. Dak., votes May 4 on $6,000 water-works construction bonds.——Topeka, Kan., has voted to issue $350,000 water-works purchase bonds; also $131,500 school-house bonds.——Aurora, Neb., voted to issue $5,000 water extension bonds.——Marshall, Mo., was to vote on $40,000 water-works purchase bond issue. A. R. James, Cy. Clk.——Elgin, Tex., has voted $10,000 bond issue for

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

putting in works.——Stroud, Okla., is thinking of issuing bonds for works.——Chickasha, Ind. T., votes May 19 on $135,000 bond issue, $75,000 of which is for works.——Ensley, Ala., city council will receive bids until May 7 for $85,000 bonds, $30,000 of which are for water-works purposes.——Durant, Ind. T., Mayor W. L. Poole writes that water-works bond issue was defeated at recent election; $15,000 was voted, however, for school purposes.——St. Marys, Ont., votes $6,000 bond issue for extending water services and electric lighting, and $20,000 for permanent roadways.

NEW COMPANIES.—Westfall Water Co., Matamoras, N. Y., will ask for charter and will organize with understanding that when borough is incorporated, it will have privilege of purchasing plant. W. M. Lawrence, H. V. Watts, James Goss.——Neptune City Water Co., Neptune City, N. J.; Joseph S. Keen, Jr., Geo. M. Bunting, P. V. Voorhees.—Central Irrigation Co., Vale, Ore.——Hood River Irrigation Co., Hood River, Ore.; $200,000; F. G. Bryant, H. M. Abbott, D. C. Deane.——San Pablo & Oakland Artesian Water Co., San Francisco, Cal.; $200,000; W. B. Hellings, A. W. Craig, M. J. Seely.

SEWERAGE.

(For foreign sewerage work, see under "Mexico," and "Foreign Contracts and Export News.")

BANGOR, ME.—The West-Bangor intercepting sewer will be extended. Cost, $10,000.

PROVIDENCE, R. I.—An appropriation of $100,000 for sewerage system has been adopted by board of aldermen.

HARTFORD, CONN.—Mayor Sullivan is in favor of appropriating $10,000 to sewer commission.

ROCKVILLE, CONN.—The question of filtration beds being discussed. Mayor Loomis is Chn. Com.

BALKTON SPA, N. Y.—An $80,000 sewage disposal plant is under consideration.

BALDWINSVILLE, N. Y.—W. S. Farrington, Civil Engr., Syracuse, will prepare plans for sewer system. Est. cost, $50,000. Pop., 3,000. R. Kratzer is Pres.

BUFFALO, N. Y.—A 4 and 6-ft. brick sewer will be constructed in Hopkins, Fifth and Germania Sts. Also a septic tank to provide for sewage.

CUBA, N. Y.—A sewer system will be constructed at cost of $38,500.

CORINTH, N. Y.—A. M. Banker received contract for constructing sewer system and disposal works for $25,000.

DEPEW, N. Y.—Bids are asked until May 4 for constructing a 15-in. tile sewer in Meridian St. J. C. Glade, Village Clk.

LESTERSHIRE, N. Y.—System to be constructed. Cost not to exceed $69,200.

NEW YORK, N. Y.—Bids are asked by the borough president, City Hall, until May 5, for extending sewer in Columbia St.

NEW YORK, N. Y.—Bids are asked by the borough president, City Hall, until May 5, for extending Columbia St. sewer.

POUGHKEEPSIE, N. Y.—Bids are asked by board public works until May 5 for constructing sewers. C. E. Fowler, Supt.

SKANEATELES, N. Y.—City Engineer F. J. Schnauber's estimate for sewer system is $48,000.

LEBANON, PA.—Sewer system being discussed. Y. R. Crowell is Cy. Engr.

TURTLE CREEK, PA.—Bids are asked until May 4 for constructing 675 ft. of 8 and 10-in. pipe sewer in Main St. and Christian alley. Also a 12-in. sewer from Belmont Place to South Park St. J. A. McGurrin, Chn. St. Com., East Pittsburg.

AUGUSTA, GA.—A pipe sewer 12 to 20 ins. will be constructed in Market St. and a 10 to 12-in. sewer in Dugas St. W. L. Martin is Clk. of Council.

CEDARTOWN, GA.—J. R. Chapman & Co. received contract for sewer in Herbert St. for $1,176.

ASHTABULA, O.—J. T. Clark received contract for the Adams, Camp and Garry St. sewers for $2,262. The engineer will prepare plans for combination sewer on Green and Second Sts.

BONDHILL, O.—Bids are asked until May 20 for constructing sewers. A. J. Kiphart, Clk. Earnshaw & Punshon, Engrs., Glen Bldg., Cincinnati.

CANTON, O.—West Lake and Feather Sts. will be improved by sanitary sewer. C. C. Lloyd is Cy. Clk

CIRCLEVILLE, O.—A lateral sewer will be constructed in Main St.

CLEVELAND, O.—Robt. Hoffman, Asst. Engr., writes us that plans for a sewer on portion of Morgan Run Valley have been completed and ordinance passed to build same.

COLUMBUS, O.—Bids are asked by board public works until April 30 for constructing south side trunk sanitary sewer and Russell St. relief system. J. A. Connor, Clk.

LORAIN, O.—Bids are asked until May 1 for constructing sewer connections.——A sewer will be constructed in Oberlin and First Aves. and Brownell Sts. J. J. Mahoney, Cy. Clk.

SAINT BERNARD, O.—Bids will soon be asked for constructing sewer system. G. Meyer, Clk.

INDIANAPOLIS, IND.—City Engineer Nelson has completed plans for the 10-mile Irvington sanitary sewer system. Bids probably asked in May. Cost, $100,000.

LOGANSPORT, IND.—A $100,000 sewer will be constructed to drain Cass, Pulaski, Fulton and White counties.

NOBLESVILLE, IND.—Bids are asked until May 11 for constructing two 12-in. sewers, 1,550 and 1,200 ft. long.

RUSHVILLE, IND.—A. L. Stewart, Cy. Engr., writes us that he has been directed to prepare plans and specifications for sewer system. Cost, $40,000.

TERRE HAUTE, IND.—City engineer is preparing plans for two pipe sewers.

WINCHESTER, IND.—Bids are asked until May 6 for constructing lateral sewer. S. F. Fox is Cy. Clk.

MUSKEGON, MICH.—Plans and specifications will be prepared for the Spring St. sewer outlet.

SAGINAW, MICH.—A sewer will be constructed in Woodbridge, Bond and other streets.

CHICAGO, ILL.—Bids are asked by board local improvements until May 6 for constructing sewers in various streets. A. M. Lynch, Pres.

FLORA, ILL.—Bids are being received for constructing sewer system. (See Streets and Roads.)

GLENCOE, ILL.—(See "Streets and Roads."

LEWISTON, ILL.—Sewers being discussed.

STERLING, ILL.—System contemplated. Cost, $2,329.

JANESVILLE, WIS.—C. V. Kerch, Cy. Engr., has prepared plans for sewer system.

MILWAUKEE, WIS.—F. Meyer, alderman, has secured an appropriation of $21,000 for a 5-ft. sewer in Center St.

CLINTON, IA.—Chas. P. Chase, Cy. Engr., has completed plans and specifications for sewer system.

COON RAPIDS, IA.—A sewer system will be constructed.

DES MOINES, IA.—Bids are asked by board public works until May 18 for constructing 12 and 15-in. pipe sewers. B. O. Hanger, Bd. Pub. Wks.

EMMETSBURG, IA.—A $35,000 system will be constructed.

RED LODGE, MONT.—Plans adopted for sewer system. Cost, $18,817. David Lay, Engr.

FORT ASSINNIBOINE, MONT.—Sewer system to be constructed.

AUSTIN, TEX.—John Fields, Fort Worth, received the contract for constructing the concrete storm sewer on Congress Ave. at $19,339.

HOUSTON, TEX.—City Engineer Dormant submitted plans and specifications for the sanitary sewer system in the Third and Fourth Wards.

BALLARD, WASH.—Plans have been completed for the sewer system in Second Ave. Cost, $40,000. The entire system will cost about $100,000.

SEATTLE, WASH.—T. McLellan & Co. submitted the lowest bid for Madrona Place sewer system.——Prospect St. sewer has been ordered; cost, $22,800. Also sewer in Pike St., at cost of $1,800.

TACOMA, WASH.—A sewer will be constructed in alley between North 28th and 29th Sts.

BAKER CITY, ORE.—A sewer system will be constructed, the starting of which will cost $12,000.

OREGON CITY, ORE.—Bids are asked by street commitee until May 14 for constructing sewers in district No. 3. Wm. Sheahan, Chn.

SUMPTER, ORE.—A sewer system contemplated.

FRESNO, CAL.—It is stated that L. O. Stephens, Mayor, has approved resolution to construct 6-in. sewer in Kern St. J. B. Johnson is Clk.

PASADENA, CAL.—W. A. Heiss, Chn. Sewer Com., recommends construction of sewer in Colorado St.

SAN FRANCISCO, CAL.—The board public works awarded the City Street Improvement Co. contract for constructing the Sixth St. sewer system for $49,000.

HEALDSBURG, CAL.—Sewer system discussed.

STOCKTON, CAL.—Ordinances have been passed for the construction of rain-water sewers at cost of $6,500.

LEWISTON, IDAHO.—Naylor & Norlin received the contract for constructing the Normal Hill sewer for $37,230.

FREDERICTON, N. B.—The sum of $20,000 may be spent on surface sewers.

BONDS.—Green Bay, Wis., will decide May 7 on a $40,000 bond issue.——Sewer bonds will be issued by Baker City, Ore.——Board of Health has recommended an election to decide upon issuing sewer bonds, Healdsburg, Cal.——Chicago, Ill., will issue $3,000,000 for the completion of sewers.——Wilmington, Del., will issue $90,000 for constructing the Price's Run sewer.——Lebanon, Pa., will vote June 16 upon issue of $500,000 for sewer system, paving, etc.——Cuba, N. Y., will probably issue $38,500 for sewer system.

GARBAGE DISPOSAL—STREET CLEANING

(For foreign garbage disposal and street cleaning, see under "Mexico;" "Foreign Contracts and Export News.")

BROOKLYN, N. Y.—Bids are asked by the commissioner of street cleaning, 13 Park Row, New York, until May 12, for the collection and removal of all garbage and kindred refuse in Brooklyn Borough, from Sept. 1, 1903, until Jan. 1, 1904. Bids will also be received until May 13 for completing an abandoned contract for collecting and removal of garbage and kindred refuse in Brooklyn Borough for one year beginning Sept. 1, 1902. John McG. Woodbury, Comr.

FORT SLOCUM, N. Y.—Bids are asked until May 1 for constructing garbage crematory, as stated in our advertising columns. Lt. Edw. T. Donnelly, Q. M.

YOUNGSTOWN, O.—It is stated that the Youngstown Garbage Co. will erect a $5,000 reduction plant on Maumee St.

CHICAGO, ILL.—F. W. Blockl, Comr. Pub. Wks., and M. J. Doherty, Supt. Sts., have been on a trip to study the methods used in the East for the disposal of garbage.

STREETS AND ROADS.

(For foreign streets and roads, see under "Mexico," and "Foreign Contracts and Export News.")

CONCORD, N. H.—An appropriation of $9,000 has been made for street improvements. T. J. Putney is Chn. Council.

BOSTON, MASS.—Bids are asked until May 4 for constructing macadam roadway. James Donovan, Supt. of Streets.

BOSTON, MASS.—A boulevard one mile long will be built at cost of $2,000,000.

MIDDLEBORO, MASS.—Everett St. will be macadamized at cost of $3,000. Macadam roads will be built.

PITTSFIELD, MASS.—Reports state that North St. will be paved with asphalt and West St. with bituminous macadam.

TURNERS FALLS, MASS.—Avenue A will be macadamized at cost of $3,500.

NEWPORT, R. I.—Bids are asked until May 20 for constructing macadam road and granolithic walks at Fort Greble. Capt. T. H. Slavens, Q. M.——Freebody St. will be macadamized at cost of $3,500.

ALBANY, N. Y.—Bids will soon be called for about $1,000,000 worth of good road work in New York state. Advertisement to this effect will appear in a later issue of Engineering News.

BROOKLYN, N. Y.—Bids are asked by department of Parks, Arsenal Bldg., Fifth Ave. and 64th St., until May 7, for paving Plaza St. with macadam. Wm. R. Willcox, Comr.

BUFFALO, N. Y.—Plans will be prepared for paving Pascal and Gilbert Sts., and repairing parts of Vermont, Ripley, Larken and 16th Sts., and Lutheran and Bean alleys. Medina sandstone will be used.

FORT STANTON, N. Y.—Bids are asked until May 18 for constructing roads and sidewalks, as stated in our advertising columns. C. K. Mower, First Lt., Q. M.

GENEVA, N. Y.—Bids are asked by board public works until May 14 for paving and improving 20,000 sq. yds. with asphalt macadam and brick on Wadsworth, Bradford and Lake Sts., and portion of Poultney St., as stated in our advertising columns. W. S. Wood, Secy.

LONG ISLAND CITY, N. Y.—The Barber Asphalt Co. received the contract for paving 23,800 sq. yds. with block and asphalt, etc., for $54,939.

NEW YORK, N. Y.—President Haffen's improvement map calls for the opening up of 420 miles of streets in the Bronx. Cost, $25,000,000.——The widening of Suffolk and Allen Sts. is being discussed.

ROCHESTER, N. Y.—Ordinances for paving Mason St. and Phelps Ave. with macadam and trap rock and cement sidewalks, etc., on various streets, will be presented to the council. Cost, $38,719.

TROY, N. Y.—First, Union and Fulton Sts. and Broadway will be paved with asphalt.

ELIZABETH, N. J.—Cost of repaving West Jersey St., $6,017.

CAMDEN, N. J.—Bids are asked by the board of freeholders until May 11 for constructing 1¼ miles of macadam road, as stated in our advertising columns. Irving Buckle, Dir.; J. J. Alberton, County Engr.

NEWTON, N. J.—Bids are asked by board freeholders until May 4 for macadamizing 8,945 ft. of the public road. A. H. Conkle, County Engr. E. H. Bell, Dir.

WARREN COUNTY, N. J.—Bids are asked by board of freeholders until May 9 for constructing 10 miles of macadam roads, as stated in our advertising columns. E. V. King, Engr., St. Cloud Hotel, Washington, N. J.

READING, PA.—Bills have been presented for paving 25 squares with brick. Cost, $100,000.

LYNCHBURG, VA.—M. V. Eldridge, of the National Good Roads Association, 140 Laclede Bldg., St. Louis, Mo., writes us that the National Bridge Park Co., of which John Stewart Walker, Lynchburg, is President, desires to build a macadam road from the top of Natural Bridge to Natural Bridge Station, on the Norfolk & Western R. R., in Rockbridge county, Va., and that Mr. Walker wants to hear from reputable contractors who would like to bid on the work.

PRATT CITY, ALA.—Sidewalks will be paved on Third, Fourth and Maple Sts. and Highland Ave.

LAKE CHARLES, LA.—A petition has been presented to the council for paving Ryan St. with brick or asphalt. Cost, $45,000.

NEW ORLEANS, LA.—W. J. Hardee, Cy. Engr., writes that legislation has been enacted and funds provided for paving with asphalt the following streets: Canal, estimated cost, $302,000; St. Charles, $64,000; Delaronde, $23,000; Toulouse, $18,000; Bourbon, $18,000; Pelican Ave., $26,000, and four other streets, $17,000. Funds not yet provided for the following streets: Carondelet St., estimated cost, $96,000; Polymnia, $18,000; Dorgenois, $17,000; Chartress, $12,000, and four other streets, $16,300.

LOUISVILLE, KY.—Various streets have been ordered paved with brick.

CINCINNATI, O.—Bids are asked by board public service until May 5 for improving Wither St. by paving with brick and constructing drains. Robt. Allison, Pres.

CINCINNATI, O.—E. Evans received contract for paving Hatch St. with brick for $8,443.

ELYRIA, O.—The question of paving Washington and Middle Aves. and Earl St. with asphalt and brick will be presented at council meeting.

HAMILTON, O.—Bids are asked until May 8 for repaving 1,350 sq. yds. with asphalt on High St. bridge and constructing 11,666 sq. ft. cement sidewalks. C. Babst, County Auditor.

KENT, O.—Bids are asked until May 2 for improving Walnut St. C. E. Craft, Village Clk.

MARYSVILLE, O.—C. S. Hamilton, Mayor, writes us that petitions for paving 16,500 sq. yds. with brick on Main St. and 600 sq. yds. on Wall St. will be presented to the council May 4. J. C. Kennedy, Des. Engr.

NAPOLEON, O.—John Ramus received contract for improving road No. 14 for $5,618 and John Ryan Nos. 15, 16, 17, with stone, for $14,139, $18,588 and $18,120, respectively.

PAYNE, O.—Bids are asked until May 18 for paving Main and Merrin Sts. with brick. D. McCormick, Clk. of Council.

PORTSMOUTH, O.—G. E. Matthews, Pres. Council, writes us that a resolution was passed to pave 12th St., 40 ft. wide, 3,000 ft. long, and Findlay St., 40 ft. wide, 5,000 ft. long, at $2.50 per yd., with brick.

TOLEDO, O.—H. B. Streicher submitted the lowest bid for paving Detroit Ave. with Harris pavers or Buckeye block for $14,185.——H. G. Jennison received contract for paving Starr Ave. with Harris pavers for $21,420.

WELLSVILLE, O.—City Engineer Leith has completed plans for improving Lisbon Road.

YOUNGSTOWN, O.—A petition is in circulation for paving Marion Ave.

INDIANAPOLIS, IND.—The Commercial Club is behind the movement to construct a boulevard from Riverside Park to Fall Creek. Cost, $500,000. C. E. Kenyon, Chn.

LINTON, IND.—W. D. Norten & Co., Terre Haute, received contract for paving over 12 miles of streets for $76,478.

TERRE HAUTE, IND.—Plans are being prepared for brick pavement on Lafayette Ave. Contract will be let in June.

GRAND RAPIDS, MICH.—Various streets will probably be paved at cost of $150,000.

SAGINAW, MICH.—Wayne and Bullock Sts. will be macadamized.

BELLEVILLE, ILL.—City Engineer Graner is preparing plans and specifications for paving West Main St.

EVANSTON, ILL.—M. Foley received the contract for macadamizing Dempter St. for $15,580.

FREEPORT, ILL.—G. Maffioli, Rockford, received contract for macadimizing portions of State, Winslow, Winneshiek, High, Carroll, Empire, Frank and Union Sts., for $28,615.

FLORA, ILL.—Bids are being received for paving five blocks on North Ave. (See Sewers.)

PARIS, ILL.—Bids are asked by board local improvement until May 6 for paving 13,776 sq. yds. with brick, as stated in our advertising columns. Z. T. Baum, Pres.; D. H. Sawyer, Cy. Engr.

GLENCOE, ILL.—Bids are asked by board local improvements until May 9 for macadamizing 10,650 sq. yds. with stone macadam, paving 140 sq. yds. with brick and constructing 9,330 ft. of 4-12-in. sewers in portions of

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

South, Hawthorne, Hazel and Greenleaf Aves., as stated in our advertising columns. G. A. Ramsay, Pres. F. A. Windes, Engr., Winnetka.

MARINETTE, WIS.—Contracts will soon be let for macadamizing Jefferson, Liberty, Stanton and Mary Sts., Ella Court and Newbury and Riverside Aves., at cost of $27,342.

DES MOINES, IA.—The construction of a boulevard two miles long is being discussed. Cost, $35,000. J. Budd, Cy. Engr.

WATERLOO, IA.—Wm. Horrabin, Iowa City, received contract for paving 53 blocks with brick.

PITTSBURG, KAN.—Bids are asked for constructing about three miles of brick pavement, as stated in our advertising columns. Address City Clerk.

ST. JOSEPH, MO.—The city engineer is making surveys on 22d St., preliminary to laying out a belt-line drive.

ST. LOUIS, MO.—Contracts will soon be let for reconstructing various streets with brick and granite.

ST. LOUIS, MO.—Board of public improvements received following lowest bids April 15 for street work: aggregate amount, about $222,000: Barber Asphalt Paving Co., in Herbert St., $15,648; in Fountain Ave., $30,684; Chapin & Greener, Evans Ave., $11,010; J. E. Perkinson, Blair Ave., $15,430; Morey Engineering & Construction Co., Cass Ave., $65,168; Jefferson to Garrison, $24,597; Garrison to Grand, $29,494; Grand west, $29,494; Granite Bituminous Paving Co., Maple Ave., $24,973; Fair Ave., $15,025; Whittier St., $31,954; Vernon Ave., $12,152; Theodosia Ave., $9,440; Marcus Ave., $69,559; West Pine Boulevard, $94,994; Union Boulevard, $31,725; Delmar Boulevard, $155,618.

DENVER, COLO.—The road through North Denver will probably be paved with disintegrated granite. J. McDonough is interested.

SEATTLE, WASH.—H. Pederson is the lowest bidder for concrete walks on Queen Anne Ave., at $7,626.——Reports state that the council has ordered First Ave. paved. Cost, $54,800.

TACOMA, WASH.—City Engineer Taylor is preparing plans and specifications for constructing about 28 miles of cement sidewalks.

OREGON CITY, ORE.—Local papers state that the Oregon City Viola road will have to be graded. Cost, $8,000.

PORTLAND, ORE.—Between four and five miles of asphalt pavement will be laid this year on 3d, 6th, 7th, Alder, Washington, Morrison and Burnside Sts.

LOS ANGELES, CAL.—Petitions are now before the council for paving various streets.

PLACERVILLE, CAL.—The cost of repairing the state road to Lake Tahoe, will run into the thousands.

RIVERSIDE, CAL.—A survey has been made for a two-mile road up Rubidoux Mountain. Cost, $6,665.

REDLANDS, CAL.—Bids will soon be asked for paving various streets with asphalt.

SAN FRANCISCO, CAL.—E. J. Morser, Asst. Engr., writes us that the Barber Asphalt Co. received contract for Third St. paving for $75,000.

BOISE, IDAHO.—J. Pilmers submitted bid of $20,878 for paving Eighth St.

BONDS.—Riverside, Cal., will probably issue $50,000.——Bids are asked until May 1 for the purchase of $12,900 street improvements bonds. J. D. McCormick, Clk. Payne, O.——On May 20 a bond issue of $25,000 will be decided by Montgomery, Ala.——An issue of $200,000 will be decided upon May 5 by Canandaigua, N. Y.——Findlay, O., will probably issue bonds for paving Elm St.

MANUFACTURING PLANTS.

(For foreign manufacturing plants, see under "Mexico," and "Foreign Contracts and Export News.")

PORTSMOUTH, N. H.—Work will be resumed on the half completed White Mountain Paper Co.'s plant. Cost, $5,000,000.

ANSONIA, CONN.—The Ansonia, Osborn & Cheesman Co. will increase capacity of plant by erecting a 6-sty brick factory, 50 × 105 ft., with an ell 50 × 55 ft.

JERSEY CITY, N. J.—The Standard Match Case Co. will soon award contract for erecting addition to plant.

TRENTON, N. J.—The Trenton Potteries Co. will soon have work started on 4-story brick slow-burning addition.

BETHLEHEM, PA.—The Bethlehem Steel Co. will spend about $3,000,000 in improvements. New machinery and electrical cranes will be installed.

CHAMBERSBURG, PA.—The Chambersburg Hosiery Co. is receiving bids for 1-story brick, slow-burning factory, 50 × 70 ft.

NORTHAMPTON, PA.—The Northampton Brewing Co. is having plans prepared for new brewery. The following fireproof buildings will be erected: Power house, mill and beer house, storage house, stables, office building, etc.

PITTSBURG, PA.—The Liberty Brewing Co. is receiving bids for new brick and steel fireproof brewery.

PHILADELPHIA, PA.—A. W. Barnes, Engr., 901 Walnut St., is receiving bids for a 3-story brick, slow-burning addition to factory at 1237-1241 Carpenter St.——T. M. Davis, 240 Cherry St., received contract for erecting 4-story brick machine shop for H. J. Katterthaler.

SHARON, PA.—The Carnegie Steel Co. will spend $200,000 in making improvements. Another blast furnace will be erected.

WORCESTER, PA.—The American Steel & Wire Co. will build a new 1-story fireproof machine shop, 90 × 180 ft. Two electric traveling cranes will be installed.

CHESTER, PA.—An armor plate plant, consisting of furnace building, foundry, machine shop and storage warehouse, will be erected at cost of $200,000. Valentine & Co., Archs., Philadelphia.

GREENSBURG, PA.—The Hempfield Foundry Co. will erect a 40 × 90 ft. foundry. All machinery purchased, except machine for boring car wheels.

BALTIMORE, MD.—Sharp & Dohme, 301 West Pratt St., are having plans prepared for 7-story brick, slow-burning addition to plant.

CANTON, MD.—The Baugh Chemical Co. is receiving bids for brick and frame acid plant. Cost, $100,000.

HAGERSTOWN, MD.—Pomeroy Bros. & Co. contemplate erecting new 4-story brick, slow-burning factory.

CLARKESBURG, W. VA.—Ramsey & Gore, Paterson, N. J., will probably erect silk plant at cost of $175,000.

WHEELING, W. VA.—A large plant will be erected for manufacturing the Davees car wheel.

ALLENDALE, S. C.—The Southern Cotton Oil Co. will erect a cotton oil mill.

HICKORY, N. C.—The Thornton Light & Power Co.'s ice plant will be erected later. Work on new plant is being pushed as rapidly as possible. M. E. Thornton is Pres.

ATLANTA, GA.—Local papers state that the Fulton Bag & Paper Co. will erect a 50,000 spindle cotton mill at cost of about $300,000. J. Elsas is Pres.——Reports state that the Atlanta & West Point Ry. Co. will move its shops to this place. New Machinery will be installed.

COLUMBUS, GA.—A cotton oil mill will probably be erected, which will employ 400 people.

LAFAYETTE, GA.—New cotton mills will be erected. E. Montgomery is Gen. Mgr.

TAMPA, FLA.—The erection of a glass factory is being discussed. The proposed factory would employ 500 or 800 hands.

COLDWATER, MISS.—A. L. Jagoe, Secy., writes us that the Coldwater Cotton Oil Co. will erect a 40-ton mill and probably a cotton ginning outfit.

CHATTANOOGA, TENN.—The Wool Extract & Merino Co. will build a $50,000 addition.

OWENSBORO, KY.—The Owensboro Forging Co. will erect plant for manufacturing buggy forgings; 150 men will be employed. S. R. Ewing is Pres.

AKRON, O.—A large factory, will be established to manufacture emery wheels. L. E. Bates is interested.

CINCINNATI, O.—Elzner & Anderson, Archs., are receiving bids for Rheinstrom Bros.' addition to plant.——S. Hannaford & Sons, Archs., Hulbert Bldg., are preparing plans for factory at 5th St. and Broadway for the John Van Range Co.; cost, $100,000. J. Zirgel is Pres.

COLUMBUS, O.—The Ohio Glass & Clay Co. will erect plant. W. S. Holcomb is interested.

CONNEAUT, O.—The Conneaut Can Co. will build a 40 × 175-ft. addition and equip with new machinery.

COSHOCTON, O.—An enamel-ware factory will be erected D. A. Reiff is interested.

PORTSMOUTH, O.—The Portsmouth Foundry & Machine Works have recently installed new machinery.——The Portsmouth Steel Co. contemplate erecting foundry, blast furnace and new mills.

TORONTO, ONT.—The Ohio Enameling Co. will probably erect a plant, which will employ about 75 hands.

SPRINGFIELD, O.—The Springfield Tire & Rubber Co. will soon purchase machinery. W. F. Smith, Charleston, W. Va., in interested.

GASTON, IND.—The Gaston File Works Co. will erect plant.

GREENTOWN, IND.—The Indiana Tumbler & Goblet Works will erect artificial gas plant. Cost, $35,000.

INDIANAPOLIS, IND.—The Marietta Glass Works Co. will build plant at 16th and Sherman Drive. Address company at Redkey, Ind.

DETROIT, MICH.—H. D. Scherer & Co.'s carriage works have been damaged by fire to the extent of $100,000.

CHICAGO, ILL.—Wm. Strippleman, Arch., 153 La Salle St., has prepared plans for C. C. Heisen's 5-story factory, 80 × 133 ft., on Kinzie St. Cost $60,000.

DANVILLE, ILL.—W. E. Walker, Arch., has completed plans for Chicago & Eastern Illinois Ry. Co.'s car shops, costing $163,000.

MILWAUKEE, WIS.—We are informed that only one building of Pawling & Harnischfeger's plant was burned, and not the whole plant as stated in our issue of April 23. There are 6 buildings remaining and with the additional space leased the plant is in even better condition than before the fire.

ONAWA, IA.—The Trans-Mississippi Grain Co. will erect an elevator.

PARNELL, IA.—A brick and tile factory may be erected.

PORT LAVACA, TEX.—A plant for manufacturing matting and hats from rice straw will be established. Col. S. F. B. Morse, Mgr. Southern Pacific Ry. Co., Houston, is interested.

TAYLOR, TEX.—A. F. Parker, Houston, will erect cotton mill of 150 looms capacity at cost of $150,000.

ENUMCLAW, WASH.—The Enumclaw Pottery Co. will erect plant.

TACOMA, WASH.—The Pacific Meat Co.'s packing house, which was destroyed by fire with loss of $200,000, will be rebuilt.

WATERVILLE, WASH.—Plans have been prepared for flour mill.

SAN PEDRO, CAL.—A shipbuilding plant is contemplated.

MISCELLANEOUS CONTRACTS.

(For foreign miscellaneous contracts, see under "Mexico," and "Foreign Contracts and Export News.")

LEVEE.—Red Wing, Minn.—About $20,000 will be spent here for river front improvements.

DREDGING.—Findley Lake, N. Y.—$4,000 has been appropriated for dredging Findley Lake.

WHARF.—Washington, D. C.—The contract for a wharf has been let to Lyons Bros. for $4,193.

WHARF.—Hamilton, Ont.—It is stated that the International Harvester Co. is to construct a wharf.

SMELTER.—Bingham, Utah.—It is said that a smelter and tramway are to be erected at the Yamp mine.

REDUCTION PLANT.—Kingman, Ariz.—The C. O. D. mine, according to reports, is to install a reduction plant.

CANAL.—Lemoore, Cal.—F. B. Harris has a contract for constructing a two-mile canal on ranch of Miller & Bates.

BLAST FURNACES.—Salt Lake City, Utah.—The Utah Iron Co., will, it is said, construct blast furnaces on its property.

TRAMWAY.—Summit, Idaho.—The Summit Tramway Co., G. W. Bashor, Gen. Mgr., will install an $18,000 tramway.

WHARF, TRAMWAY.—Eureka, Cal.—Knowles Evans has asked leave to erect a wharf and tramway on Wardley Island.

MINING WORK.—San Jose, Cal.—Reports state that $100,000 is to be spent in improving the Chapman quick silver mine.

MINING PLANT.—Folsom, Cal.—The Twin Brothers Mining Co., will, it is said, erect a plant at the Twin Brothers Mine.

FIRE ENGINE.—Riverside, Cal.—A $12,000 bond issue is favored for fire department needs. Of this sum $3,000 is for a chemical engine.

PUBLIC IMPROVEMENTS.—Scranton, Pa.—City authorities are arranging for $500,000 bond issue for various municipal improvements.

DRAINAGE.—Easton, Ill.—It is stated that it is proposed to spend $15,000 for drainage work on land owned by J. Herget, Pekin, Ill.

LOWERING TUNNELS.—Chicago, Ill.—Legislature has had bill to authorize city to issue bonds for lowering tunnels under Chicago River.

FIRE SYSTEM.—Columbus, O.—Contract for a 1,000-bbl. fire system at West Side pumping station has been let to D. W. McGrath for $11,088.

DREDGING.—Buffalo, N. Y.—Contract for dredging section No. 6 of Buffalo River will probably be let to Buffalo Dredging Co., for $129,500.

CEMENT.—Zanesville, O.—Bids are asked until May 18 for furnishing 700 bbls. American Portland cement. Maj. Ernest H. Ruffner, U. S. Engrs.

DRAINAGE WORK.—Miami, Fla.—Engineers are said to be working on plans for the Florida East Coast Railway for drainage of the Everglades.

CONCENTRATOR.—Georgetown, Colo.—The Waldorf Mining & Milling Co. is to erect a concentrating plant on Leavenworth Creek in East Argentine.

SHIP YARD.—La Porte, Tex.—It is stated that Capt. J. J. Hussey will establish a ship yard at this place. He has a contract for building four barges.

WHARF.—Newport, R. I.—The U. S. government to purchase the Swinburne Peckham Co. wharf as a site for the proposed military wharf in this city.

DREDGING.—Norfolk, Va.—Bids are asked at U. S. Engineers Office until May 25 for dredging Nansemond River, as stated in our advertising columns.

DITCH.—Saratoga, Wyo.—The Encampment-Platte Valley Ditch Co. has been organized to construct a canal, nine miles long, 12 ft. wide and 2 ft. deep.

STAMP MILL, CONCENTRATORS.—Coulterville, Cal.—The Diana Gold Mining Co is said to contemplate erecting a 10-stamp mill and installing concentrators.

PILE WHARF.—Ottawa, Ont.—The Dominion Government is asking for bids until May 5 for constructing pile wharf at Fort Lawrence, N. S.; check for $2,000.

BOILERS.—Washington, D. C.—The Capital Construction Co., 15th and U Sts., are soon to let contracts for a new boiler house; new boilers are to be installed.

MINING PLANT ENLARGEMENT.—Yuma, Ariz.—It is stated that the California King Gold Co., R. K. Humphrey, Supt., will probably enlarge its plant soon.

IRON FLAGSTAFF.—Vancouver, Wash.—Bids are asked until May 5 for erecting and painting 75-ft. iron flagstaff at Fort Columbia, Wash. F. H. Hathaway, C. Q. M.

CEMENT AND STONE.—Norfolk, Va.—Bids are asked at U. S. Engineers Office until May 27 for furnishing Portland cement and broken stone at Fort Wool, Va.

LAND IMPROVEMENT.—Boston, Mass.—It is said that $100,000 is to be appropriated by the state for the improvement of the flats at Jeffries Point, East Boston.

PATROL WAGONS.—New York, N. Y.—Bids are asked by the police commissioner, 300 Mulberry St., until May 8, for four patrol wagons. Francis V. Greene, Police Comr.

TRAINING SHIPS.—Washington, D. C.—Congress has authorized the construction of three training ships. It is probable that these will be built at government navy yards.

DITCH.—Council Bluffs, Ia.—Bids are asked until May 25 for constructing the Fensler ditch, requiring about 17,600 cu. yds. earth excavation. R. V. Innes, County Auditor.

DREDGING.—Los Angeles, Cal.—A company, George Scannel, Supt., has been organized for dredging the Hassayampa River, and will have a dredge built for that purpose.

CRIBBING, FILLING.—Canandaigua, N. Y.—W. Hurlihs writes us that a proposition for improving lake pier by cribbing and filling at a cost of $3,500 will be voted on May 5.

LOCK GATES.—Pittsburg, Pa.—Bids are asked until May 13 for two steel lock gates at Lock 6, Ohio River, as stated in our advertising columns. Capt. Wm. L. Sibert, U. S. Engrs.

MINING WORK.—Tucson, Ariz.—The Copper Crown Mining Co., will, it is said, install new machinery and make considerable improvements on its properties in Cochise county.

SMELTER.—Tacoma, Wash.—The contract for building a "bag house" and double-deck "roaster" at the Tacoma Smelter has been let to the F. M. Goss Construction Co., for about $25,000.

DREDGERS.—Tacoma, Wash.—The North Pacific Dredging Co., A. Perry, Mgr., has let contracts to J. B. C. Lockwood and J. A. Sloan for building two dredgers at a cost of about $150,000.

DAM WORK.—Rock Island, Ill.—Bids are asked until May 27 for construction and repair of dams and shore protections, as stated in our advertising columns. Major Jas. L. Lusk, U. S. Engrs.

CONCENTRATOR.—Helena, Mont.—Work, it is stated, will be commenced at once on a concentrator, to be built for the East Side Mining Co., of which W. W. McDowell, Butte, Mont., is Vice-Pres.

FLOOD ABATEMENT.—Buffalo, N. Y.—F. G. Ward, Comr. Pub. Wks., has recommended that notice of intention be published for widening and deepening Scajaquada Creek for the abatement of floods.

DREDGING, ROCK REMOVAL.—New York, N. Y.—Bids are asked until May 25 for dredging and rock removal in East River, N. Y., as stated in our advertising columns. Col. Amos Stickney, U. S. Engrs.

WIRELESS TELEGRAPHY.—New York, N. Y.—The American Line has announced its intention to equip its steamers, the St. Louis, the St. Paul and the New York with the Marconi Wireless Telegraph systems.

PIERS, ETC.—Baltimore, Md.—The Western Maryland R. R. Co. has awarded the contracts for constructing its tidewater terminals to the Degnon & McLean Co., 17 Park Row, New York. Three piers are to be erected.

DEFENSE TOWERS.—Portland, Ore.—Bids are asked until June 5 for constructing two iron towers for defenses mouth of Columbia River, as stated in our advertising columns. Capt. W. C. Langfitt, U. S. Engrs.

CONVERTING PLANT.—Silver City, N. Mex.—Commanche Mining & Smelting Co. has purchased smelting plant of Silver City Reduction Co. and will improve the same. A copper converting plant will also be put in.

CONCENTRATING PLANT.—Stein's Pass, N. Mex.—The National Gold & Silver Mining Co. is said to contemplate erection of a concentrating plant. J. L. Draper, of Draper Pub. Co., Chicago, Ill., is said to be interested.

MINING MILLS, ETC.—Sumpter, Ore.—A press report states that the following mines are to be supplied with mills and other plants for treating metals: Blue Bird, Tempest, Morning, Standard, Stockton, Snow Creek.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Cracker Oregon, Belcher, Alamo, Chelan, California, Baisley-Elkhorn, Orto, Golden Wizard, Resolute, Ross Gulch, Dixie Meadows and others.

HARBOR.—Oakland, Cal.—Plans are stated to have been completed by the Realty Syndicate and the Santa Fe R. R. Co. for converting part of the west shore of the city into a landlocked harbor by dredging and building a bulkhead.

DRAINAGE DISTRICT.—Rushville, Ill.—T. K. Condit, Beardstown, Ill., is reported as interested in the formation of a drainage district for protecting the low lands near Meredosia Lake. The cost of the necessary work is estimated at $30,000.

SHOP EQUIPMENT.—Washington, D. C. Bids are asked by the bureau supplies and accounts until May 12 for furnishing complete equipment for construction and repair shops at New Orleans, La., naval station. A. S. Kenny, Paymaster Gen., U. S. N.

INLAID FLOORING.—A correspondent in Montana asks for the names and addresses of manufacturers of inlaid flooring or of a prepared covering for wood or cement floors in imitation of inlaid flooring. Address E. H. F., Engineering News, New York.

OIL PIPE LINE.—Barbourville, Ky.—It is stated here that Standard Oil Co. will construct a transit pipe line from the Richfield field to the main line, where special storage tanks will be erected. A line is also contemplated to the Stinking Creek field.

DREDGING.—New London, Conn.—The following bids were received April 23 for dredging in New Haven harbor: Wm. H. Taylor, Jersey City, $51,090; International Contracting Co., New York, $57,407.50; Morris & Cummings, Dredging Co., New York, $72,100.

VAULTS.—Washington, D. C.—The following bids were received April 23 for vaults for cash room of U. S. Treasurer's Office: E. H. Miller Safe & Iron Works, Baltimore, Md., $35,350, 265 days; Herring-Hall-Marvin Safe Co., Hamilton, O., $22,041, 10 months.

LEVEE AND DYKES.—Pueblo, Colo.—It is stated that the city council has rejected all bids for raising the levee and building dykes, and that new bids, under revised specifications, are to be asked. The former specifications called for an expenditure of $11,000.

DREDGE AND SNAG BOAT.—St. Augustine, Fla.—Capt. F. R. Shunk, U. S. Engrs., has received a bid of $81,254 from the Merrill-Stevens Engineering Co., Jacksonville, Fla., for constructing and equipping a steel hull stern-wheel combined dredge and snag boat.

WORLD'S FAIR CONTRACT.—St. Louis, Mo.—The contract for constructing "Jerusalem" on the World's Fair grounds has been let to John J. Dunnavant & Co., for $500,000. It is said that this will be an exact reproduction, save in size, of the ancient city of Biblical times.

COLLECTION CASES, CHAIRS.—New York, N. Y.—Bids are asked by the Park Department, Arsenal Bldg., until May 7 for completing collection cases for center pavilion of the Eastern Parkway of Brooklyn Institute of Arts and Sciences; also for auditorium chairs for the same institution. Wm. R. Wilcox, Comr.

UNDERGROUND CONDUITS, ETC.—Trenton, N. J.—Oliver M. Schafer, Engr., writes us that plans and specifications are being prepared for placing the city fire alarm and police telegraph and telephone systems in underground conduits. Part of the police system will also be equipped with new patrol boxes and telephones.

BUILDING CRUISER.—Washington, D. C.—Assistant Secretary of Navy Darling is stated to have recommended to Secretary Moody that the contract for building the Cruiser Galveston be forfeited by the Wm. R. Trigg Co., Richmond, Va. which recently went into the hands of a receiver, and the vessel finished by the government.

PLAYGROUNDS, PARKS.—San Francisco, Cal.—Mayor E. E. Schmitz has approved the following ordinances: Construction childrens' playgrounds, 7th and Bryant Sts., and Stockton and Powell Sts.; extension of Golden Gate Park; construction of park to be known as St. Mary's Square, on Pine and Quincy Sts.; construction of park on Lincoln and Corbett Aves.

EXCAVATION.—Syracuse, N. Y.—Frank J. Schnauber, Cy. Engr., writes us that the proposed Harbor Brook improvement, which is to consist of excavation in bottom of stream and some slope wall construction, is to be let in two sections. Plans for one section were to be completed about April 25, and for the other about May 29. Contracts are to be let immediately after completion of plans. The estimated cost of the work is $24,000.

DERRICK TIMBER.—Duluth, Minn.—Contract for fir derrick timber, 30 ft. and over, for the government work on piers, has been let to Rogers, Ruger Lumber Co., Superior, Wis. It is stated that these piers are to be built by day labor under supervision of government engineers, as all bids for the concrete were higher than the estimates. Contracts for material and preliminary work have been let.

CONTRACT PRICES.

[Where (*) precedes items under Contract Prices the work was advertised in Engineering News.]

(*)BRIDGES AND ABUTMENTS.—West Boylston, Mass.—The following bids were received by the Metropolitan Water & Sewerage Board on April 14 for building arch bridges and abutments at Oakdale; contract awarded Geo. M. Atkins Co.: the proportions for Portland cement concrete were (a) 1:2½:4½, (b) 1:3:6, respectively:

Bids Received at West Boylston, Mass., April 14, 1903, for Building Arch Bridges and Abutments.

Bidder.	Excavation. Earth, 3,000 yds.	Excavation. Rock, 750 yds.	Portland cement concrete (a), 425 yds.	Portland cement concrete (b), 2,000 yds.	Masonry Stone in abutments, 1,100 yds.	Ashlar, 210 yds.	Dimension stone, 120 yds.	Face dressing of pointed work, 3,000 sq. ft.	Total.
Geo. M. Atkins Co., Palmer, Mass.	$0.50	$2.00	$7.00	$6.00	$8.00	$16.00	$20.00	$0.40	$37,335
Eglee-Bunting Co., Boston	.30	2.50	7.00	6.30	9.45	26.50	26.50	.40	42,470
Ross & Fowler, Boston	.99	1.76	8.17	7.25	8.90	19.00	27.80	.50	45,228
McGawley & Coughlan, Boston	.35	2.00	6.75	6.50	12.75	15.00	35.00	.65	45,644
Francis A. McCauliff, Pittsburg, Mass.	.40	2.50	10.00	9.40	9.00	16.00	23.00	.35	48,835
Winston & Co., Clinton, Mass.	.40	3.00	7.00	6.00	14.00	28.00	40.00	.60	49,905
Thomas Kearney, Little Falls, N. Y.	.50	1.90	8.40	7.90	12.00	29.00	29.00	.50	51,965
Lawler Bros., Charlestown, Mass.	.50	2.00	8.00	7.75	13.75	23.00	37.00	.45	52,215

(*)DREDGING.—New York, N. Y.—Col. Amos Stickney, U. S. Engrs., New York, received the following bids on April 15 for dredging at Portchester, etc., and of constructing a breakwater at Glen Cove, N. Y.: John P. Randerson, 62 Quay St., Albany, dredging Port Jefferson Harbor, 28 cts.; John and Joseph McSpirit, 118 Wayne St., Jersey City, N. J., dredging Portchester Harbor 21 cts. a cu. yd., Mamaroneck Harbor 27 cts., Bronx River 95 cts., East Chester Creek, 45 cts.; John A. Bouker, 21 State St., stone breakwater, $1.50 a ton; R. G. Packard Co., 130 Pearl St., dredging Flushing Bay, 37½ cts.; O'Brien Bros., 54 South St., breakwater, $1.83 a ton; Smith & Robinson, 100 William St., breakwater, 78½ cts. a ton.

HIGHWAYS, BRIDGE PIERS, FENCING, ETC.—New York, N. Y.—The Aqueduct Commissioners, 280 Broadway, received the following bids on April 7 for constructing highways, bridge piers and abutments, culverts, fencing, etc., around Croton Lake:

Bids Received at New York, N. Y., April 7, 1903, for Constructing Highways, Bridge Piers, Etc.

Quantities.		McArthur Bros. Co., 128 Broadway.	Bellew & Merritt Co., Tuckahoe, N. Y.	Chas. W. Smith, 110 E. 56th St.	Wm. J. Flanagan, Yonkers, N. Y.
Bailing and draining		$2,000	$500.00	$500.00	$500.00
Clearing	15 acres...	75.00	200.00	40.00	20.00
Grubbing	6 acres...	65.00	250.00	60.00	50.00
Earth excavation	455,000 cu. yds.	.25	.23	.32	.28
Rock excavation	16,000 " "	1.32	.90	1.40	1.50
Long haul	70,000 " "	.01	.0092	.0128	.01⅛
Riprap laid	17,000 " "	1.75	1.00	1.00	1.50
Stone ballast	250 " "	2.00	2.00	.50	1.50
15-in. tile laid	1,100 lin. ft..	1.10	.80	.50	1.00
18-in. tile laid	350 " "	1.30	1.00	.60	1.10
1:2:5 concrete	500 cu. yds.	5.50	5.90	5.00	5.00
1:2:3 concrete	250 " "	6.50	6.12	6.00	5.50
Brick masonry	130 " "	12.50	11.00	12.00	12.00
Dry rubble	500 " "	3.00	2.50	3.00	3.00
Rubble masonry	16,000 " "	5.85	5.00	4.40	3.50
Face work on rubble	25,000 sq. ft...	.30	.75	.40	.75
Masonry for culverts	100 cu. yds.	5.85	8.00	6.00	10.00
Dimension masonry	1,800 cu. yds.	28.50	40.00	20.00	35.00
6-cut face dressing	11,000 sq. ft...	.60	2.00	1.00	.50
Rough-point face	40,000 " "	.35	.80	.30	.40
Pier and abutment masonry	3,000 cu. yds.	40.00	35.00	15.00	12.00
Additional masonry	500 " "	2.25	2.20	1.50	2.00
Stone wall fencing	245,000 lin. ft..	1.20	.73	.70	.90
Permanent timber	5,000 " "	30.00	40.00	50.00	50.00
Piles driven	250 lin. ft..	1.00	.50	2.00	.50
Rail fence, painted	110,000 " "	.28	.22	.25	.25
Guard rail, painted	20,000 " "	.24	.18	.20	.22
Total		$803,210	$689,209	$584,801	$564,101

(*)CANAL WORK.—Chattanooga, Tenn.—Maj. J. G. D. Knight, U. S. Engrs., received the following bids on April 11 for constructing upper section of Colbert and Bee Tree Shoals Canal: (1) bid of O'Brien & Hoolihan of Syracuse, N. Y., and E. Brown Baker, of Morgantown, W. Va.; (2) Christie & Love, Chicago, Ill.; (3) Sheridan-Kirk Contract Co., Madison, Ind.:

		1.	2.	3.
Concrete	44,000 cu. yds.	$8.75	$10.00	$8.28
Earth excavation	54,000 " "	.50	1.80	.50
Rock excavation	143,000 " "	2.25	1.80	1.98
Iron and steel	15,000 lbs.	.05	.10	.07
Laying masonry	13,100 cu. yds.	3.00	7.50	6.00
Riprap	200 " "	2.00	3.00	2.00
Stone backing	100 cu. yds.	5.00	5.50	10.00
Stone coping	560 " "	15.00	18.00	24.00
Face stone	100 " "	10.00	9.00	16.00
Special stone	300 " "	15.00	20.00	24.00
Timber	1,600 ft., B.M.	80.00	200.00	50.00
Test holes	150 lin. ft..	.50	.30	.60
Total		$788,803	$912,845	$777,920

CONCRETE-STEEL ARCH BRIDGE.—New York, N. Y.—The following bids were received by the Park Board on April 23 for constructing a concrete-steel arch bridge with stone facings over the Bronx River at the crossing of The Bronx and Pelham Parkway; all are local bidders:

Bids Received at New York, N. Y., April 23, 1903, for Constructing a Concrete-Steel Arch Bridge.

Quantities.		United Engineering & Con. Co.	H. P. Burgard.	F. V. Smith Con. Co.	W. J. Moore.	F. A. Curry.	Jos. Gillo.	Geo. L. Walker.	James Mc-Ferran.
Removing old bridge		$3,500	$1,000	$1,000	$1,000	$2,500	$2,040	$1,900	$3,185
Bailing		3,000	250.00	4,000	1,000	1,000	450.00	2,225	1,850
Earth excavation	3,200 cu. yds.	.70	.50	1.50	2.00	1.00	1.35	.56	.47
Rock excavation	50 " "	5.00	1.00	5.00	10.00	5.00	8.00	3.34	2.95
Concrete	1,450 " "	6.00	9.00	7.50	9.00	8.00	8.00	6.16	6.47
Concrete	960 " "	23.00	21.00	17.50	20.00	19.00	139.00	21.33	16.70
Gneiss	190 " "	27.50	20.00	27.90	45.00	45.00	30.00	29.00	54.00
Limestone	250 " "	22.00	10.00	18.90	20.00	12.00	18.00	21.65	17.50
Terra cotta	8 " "	55.00	50.00	50.00	50.00	100.00	20.00	41.00	55.00
Embankment	4,000 lin. ft..	.35	.50	.60	.25	.50	.01	.46	.38
Mold	500 cu. yds.	1.20	1.00	1.50	1.50	1.50	1.50	1.45	2.00
8-in. pipe	500 lin. ft..	2.00	.50	.80	.90	1.50	.40	.60	1.05
Road basins	4 each...	100.00	50.00	70.00	50.00	50.00	120.00	45.00	47.00
6-in. curbing	590 lin. ft..	1.25	1.00	2.00	2.00	1.00	1.20	1.95	1.00
Telford	2,270 lin. ft..	1.35	1.00	1.00	1.00	1.00	1.00	1.00	1.88
Walks	11,200 sq. ft...	.25	.05	.06	.15	.05	.10	.06	.18
Total		$60,937	$49,180	$56,023	$62,630	$56,260	$168,178	$53,641	$57,100

PLANKING.—Lawrence, Mass.—D. W. Pingree Co. has been awarded contract for 60,000 ft. of spruce planking, to be used in replanking local bridges at $19.10 per 1,000 ft.

CAST-IRON PIPE.—Portland, Ore.—The water board received the following bids on April 8 for furnishing c.-i. water pipe: Oregon Iron & Steel Co., $39 to $42 per ton for pipe and 3½ cts. per lb. for special castings; Martin Pipe & Foundry Co., San Francisco, pipe, $41; castings, 3½ cts.; R. D. Wood & Co., Philadelphia, pipe, $42.50 to $43 if delivery by steamer $3 per ton less, castings 3 4-10 cts.; Hofins & Co., Seattle, Wash., pipe, $41 to $43 per ton, castings 3¼ cts. per lb.

TUNNEL WORK.—Anaheim, Cal.—The Anaheim Union Water Co. has let a contract to Frank Chadler for constructing three tunnels above Yorba on its main irrigation canal, at $3.75 per lin. ft.; timber and logging, $1.25 per ft.; concrete, $2 per lin. ft.

(*)DREDGING.—New York, N. Y.—Lieut.-Col. C. W. Raymond, U. S. Engrs., received the two following bids on April 22 for dredging in the Passaic River, New Jersey; price is per cu. yd., scow measurement: Morris & Cumings Dredging Co., 17 State St., 31½ cts.; International Contracting Co., 95 Broad St., 28¾ cts.

WATER PIPE.—Toledo, O.—Water-works trustees have accepted bid of American Car & Foundry Co., Detroit, Mich., for 1,100 tons c.-i. water pipe, as follows: 30 tons 4-in. at $30; 800 tons 4 and 8-in., $29.50; 270 tons $29.30.

(*)DREDGING.—Boston, Mass.—Capt. Harry Taylor, U. S. Engrs., received bids as follows on April 20, 1903, for dredging in Beverly and Manchester harbors; all bidders of Boston: (1) Beverly Harbor, (2) Manchester Harbor, (3) both sides: Chas. H. Souther, (1) 33¾ cts., (2) 38¼ cts.; Bay State Dredging Co., (1) 34¼ cts.; Eastern Dredging Co., (1) 39 cts., (2) 39 cts., (3) 38½ cts.

DREDGING.—New London, Conn.—Maj. Chas. F. Powell, U. S. Engrs., received the following bids April 23 for dredging Quinnipiac and Mill Rivers, Conn.:

	Sec. 1. 40,000 cu. yds.	Sec. 2. 10,000 cu. yds.	Sec. 3. 160,000 cu. yds.	Sec. 4. 107,000 cu. yds.
Wm. T. Taylor, Jersey City, N. J.	$0.15	$0.35	$0.15	$0.17
International Contracting Co., New York, N. Y.	.16	.40	.145	.22¾
Morris & Cummings Dredging, Co., N. Y.	.18	.40	.18	.30

CAST-IRON PIPE.—Victoria, B. C.—The Victoria Machinery received the contract for supplying the city with 8,000 ft. of 4-in. c.-i. water pipe at $51.75 per ton.

(*)CEMENT AND BREAKWATER.—New York, N. Y.—Maj. W. L. Marshall, U. S. Engrs., received the following bids April 8 for cement and broken stone at Fort Hamilton, N. Y.; all are local bidders; (1) for 9,000 bbls. cement in barrels, (2) same in bags, (3) 6,000 cu. yds. broken stone: John P. Kane Co., 287 Fourth Ave., (1) $2.15, (2) $1.89; Hiram Snyder & Co., 229 Broadway, (1) $2.12; (2) $1.85; Vulcanite Portland Cement Co., 23d St. and Broadway, (1) $2.30, (2) $2; Atlas Portland Cement Co., 30 Broad St., (1) $2.16, (2) $1.87; Clinton Point Stone Co., 170 Broadway, (3) $1.65; Jacob E. Conklin, 135 Front St., (3) 94 cts.

ASPHALT REPAIRS.—St. Paul, Minn.—The Barber Asphalt Paving Co. will repair about 4,000 sq. yds. of asphalt paving at $1.65 per sq. yd.

U. S. POSSESSIONS AND CUBA.

HOSPITAL.—Manila, P. I.—The military authorities will soon erect a hospital and recuperation station near Mariveles.

PIER.—San Juan, P. R.—The council has granted a franchise to the New York & Port Rico Steamship Co. to build a pier here at a cost of $125,000.

RAILWAY.—Cuba.—A new railway is to be built from Santiago to Guantanamo, over 100 miles long, in the near future. The new company is said to be financed by the Knickerbocker Trust Co. of New York.

WIRELESS TELEGRAPH.—Alaska.—Engineer Richard Pfund of the Marconi Wireless Telegraph Co. of America has started for Alaska to complete the installation of a series of wireless telegraph stations for the U. S. Signal Service.

RAILWAY.—Alaska.—Articles of incorporation have been filed by the Alaska Ry. Co. with $100,000 capital stock, to build 425 miles of railway near Prince William Sound. Wayles B. Bradley, Geo. T. Forster and W. H. Crawford are incorporators.

SMELTERS.—Alaska.—It is said that the Amalgamated Copper Co. of Montana is sending its experts, Messrs. Winchell and Smith, to the Copper River in Alaska to ex-

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

ploit copper deposits, with the object of extending its operations there. If a railroad is built from Valdes into the interior, the company proposes to spend $1,000,000 for a smelter at Valdes.

DISTILLERY.—San Juan, P. R.—Arrangements are made for the establishment in Porto Rico of a large distillery. John D. W. Sherman, Treas. West India Distillery Co., left San Juan for New York on April 22, after having completed arrangements. The distillery company and the Vandergrift Construction Co., which is to build the $2,000,000 railway across the Island, have purchased a 65-acre tract of land here to be used as a site for the new establishment, and for the railroad machine shops and yards. The distilling company will build docks and wharfs at that point. Surveys of the harbor of San Antonio are being made and a channel will likely be dredged to accommodate large vessels. The output of new venture will be disposed of largely to the African and Mediterranean trade.

MEXICO.

BUILDING.—Chihuahua.—The Banco Minero is preparing to erect a new building, which it will occupy.

CITY HALL.—Juarez, Mex.—New city hall to be built immediately and other improvements to be made.

ICE PLANT.—Tampico.—An American company is considering the proposition of establishing an ice plant here.

SOAP FACTORY.—City of Mexico.—J. S. Colgate, soap manufacturer, is in Mexico to investigate the advisability of erecting a soap factory near this city.

ELECTRIC RAILWAY.—Guadalajara.—Engineer Mariano Schiaffino has gone to the U. S. to purchase material and equipment for the new electric street railway.

SAW MILL.—Minares.—It is reported that the Chihuahua Lumber & Mfg. Co. will double the capacity of its saw mill, located near Minares; present capacity, 20,000 ft. a day.

ELECTRIC RAILWAY.—Mexico City.—A concession has been granted to G. B. Dennis, of this city, for an electric railway from Durango to San Dimas, to be about 70 miles long.

SMELTER.—Cananea.—The smelter of the Greene Consolidated Copper Co., 1,500 tons daily capacity, is to have that capacity doubled. Other extensive improvements to the plant proposed.

ELECTRIC TRACTION SYSTEM.—Mexico City.—The Mexico Electric Tramway Co., Ltd., operating an electric line in this city, is to construct a line between Loreto and Buenavista, two suburbs.

BUILDING.—City of Mexico.—Government has entered into contract with Jose de Landro, Pres. Permanent Exposition Co., of this city, for the construction of the building of the company. Work must begin before Sept. 19.

WATER-WORKS AND SEWERAGE.—Puebla.—A syndicate, represented by Stephen Shepard, New York, and Lt. Alexander, formerly of the U. S. Navy, has secured a concession for establishing a water-works and sewerage system.

RAILWAY.—Paredon.—The Mexican Central Ry. has abandoned the line between here and Trevino. It is understood that the rails will be taken up and that the new line now being built to Paredon from San Pedro will be used. This line will soon be completed and opened for traffic.

BUILDINGS.—Guadalajara.—A law is enacted exempting from all municipal and state taxes all residence buildings erected after July 1 next which cost $8,000 or more in this city and all costing $5,000 or more in other cities of the state, and those costing $3,000 or more in villages and small towns.

IRRIGATION.—City of Mexico.—James Butler, a Mormon capitalist of Colonia Juarez, Chihuahua, is here in the interest of a number of people of Chihuahua who propose forming a company to exploit the Guaynopa Canyon in that state, which will mean construction of miles of canals and flumes and the installation of a large power plant.

WATER-WORKS AND SEWERAGE.—Puebla.—An American syndicate, represented by Stephen Sheppard, of New York city, has obtained a concession from the state and municipal governments for the construction and operation of complete systems of water-works and sewerage for this city. The projects will require the expenditure of more than $2,000,000.

IRRIGATION.—State of Jalisco.—We are informed that a concession has been granted to Don Amado Rivas by the federal government to utilize, for irrigation and motive power, 320 liters of water per second from Teuchitlan River, in the state of Jalisco. The concession provides for the transmission of electrical energy by overhead wire or by underground wires in tubes. Address Señor Rivas at La Barca, Estado de Jalisco, Mexico.

ELECTRIC RAILWAY.—Durango.—James B. Dennis, Los Angeles, Cal., and associates plan electric railroad between Durango and San Dimas, distance of 150 miles. State government has granted concession and promoters have given bond to state as a guarantee. The route is through an exceedingly rough country and many engineering difficulties will be encountered in its construction. San Dimas is a mining camp and with other big producing mines in the country will be opened up by the road. Mr. Dennis has returned to the States to perfect plans.

PACKING ESTABLISHMENT.—City of Mexico.—The North American Beef Co. has a government concession for the establishment of two packing houses, one in Uruapan and the other in the state of Veracruz, at a point to be determined later. The company is also, by the terms of the concession, authorized to establish refrigerating warehouses. The plans must be submitted, showing the details of the construction of the various buildings and accessories by April 10, 1904, and the company is obligated to invest not less than $200,000 in the projects. Address Lic. Luis Mendez, City of Mexico.

RAILWAYS.—Monterey.—Surveys are being made by the Mexican Central Ry. for lines between El Paso and San Antonio and Laredo and San Antonio, for the new line from Monterey to San Antonio. W. F. Waters is in charge of the work. L. Kingman is Ch. Engr., Mexico City.——Col. Uriah Lott is having preliminary surveys made for a line between Matamoras and Alice, Tex., according to local papers. A free right of way will be offered.——Tapachula.—The Governor of Chiapas intends building a railroad from this city to the port of San Benito, and is organizing a company of local capitalists to finance the scheme.——A line through the peninsula of Lower California from the maine line of the Southern Pacific to San Jose del Cabo is said to be planned by E. H. Harriman of the Southern Pacific. Surveys are now being made. Branch lines will be built to Ensenada, Todos, Santos, Santa Julia and La Paz.

FOREIGN CONTRACTS—EXPORT NEWS

MACHINES.—Birmingham, Eng.—U. S. Consul Marshall Halstead wants catalogues of machines for trimming wall paper.

BUCKETS.—Johannesburg, S. Africa.—It is asserted that the municipality will soon place an order for 10,000 sanitary stamped buckets.

RAILWAY.—Siberia.—The R. R. Commission of the Finance Ministry has selected a southerly route for the connection between the Siberian R. R. and the St. Petersburg-Viatka line. It will start at Kurgan and pass Shadrinsk, Yekaterinboorg and Krasno-Oufimsk.

MACHINERY.—South Africa.—U. S. Consular Agent, W. D. Gordon of Johannesburg, is making inquiries for data relative to cotton gins and equipment, brick-making and cane sugar machinery, and oil presses for extracting oil from peanuts and other nuts of similar nature.

ELECTRICAL PLANT.—Brighton, Eng.—Bids are asked until June 8 for constructing 5,400-KW. generating plant at the Southwick Power Station, and 5,000-KW. motor generator converting plant, with switchboards, instruments etc., at the North Road Power Station. Francis J. Tillstone, Town Clk.

BUILDING.—Cape Town, S. Africa.—The new building of the Mutual Life Insurance Co. in this city will be a steel skeleton construction, fireproof structure, 7 stories in height, and 102 × 95 ft. Three hydraulic elevators and electric lighting will be installed, the power for both to be supplied by a plant in the building.

RAILWAY.—Bagdad.—An agreement has been concluded, according to reports, whereby Great Britain, France and Germany will participate equally in the control of the proposed Bagdad Ry. The main Bagdad Ry. is to run from Konia to Karamanereyll, Mossul, Bagdad and Basra, with branches to Aleppo, Urfa and the Gulf of Alexandretta. Germans obtained the concession for the line.

RAILWAY.—China.—The German-Chinese Ry. Co., Ltd., has been incorporated in Berlin, with a capital stock of $2,500,000 to carry out the construction of Chinese state railways. The company embraces a number of prominent German banks and banking houses, among them being the Deutsche Bank, the Dresden Bank, the National Bank Fuer Deutschland, Robt. Warschauer & Co., J. S. H. Stern, Frankfort, etc.

SEWERAGE AND WATER SUPPLY SYSTEMS.—Guayaquil, Ecuador.—Señor L. Garcia, Pres. of a leading bank of Guayaquil, is now in New York for the purpose of making arrangements for the construction of sewerage and water-works systems in Guayaquil. The improvements to be carried out will cost about $2,500,000, and will also include some radical changes in the city's fire department, costing $300,000. Señor Garcia may be seen through W. R. Grace & Co., Hanover Square, or G. Amsinck & Co., 6 Hanover Square, New York.

INDUSTRIAL NOTES.

THE AM. MACHINERY & EXPORT CO. has removed its office to 114 Liberty St., N. Y.

THE FRED MACEY CO., LTD., has removed to 243 Broadway, N. Y., where it will carry a full line of office furniture.

JOHN McLEAN, manufacturer of stop cocks, hydrants, etc., has removed to 440 Water St., N. Y., from 298 Monroe St.

THE McKELVEY CONCRETE MACHINERY CO. has moved its offices from the Security Bldg. to 171 La Salle St., Chicago, Ill.

THE PICKER LEAD CO. has removed its office from the Western Union Bldg., Chicago, to the Tacoma Bldg., La Salle and Madison Sts.

HUTCHINSON & JACOB, Arcade Bldg., East St. Louis, Ill., have formed a partnership for making surveys, estimates, etc., for railways, city lots and coal mines.

DALLETT & CO., 201 Walnut St., Philadelphia, have received a contract for furnishing the electrical equipment for the new cars for the Allentown & Reading Traction Co.

THE ACME WATER STORAGE & CONSTN. CO., Robt. G. Hart, Supt., Huntington, L. I., N. Y., is reported to be installing a 20,000-gallon plant for the General Hospital at City of Mexico, Mex.

THE R. M. PATRICK ELECTRIC CONSTN. CO., Kirk Bldg., Syracuse, N. Y., has been organized to build power, telephone, lighting and railway plants. B. H. Shepard is Engr., and R. M. Patrick is Mgr.

H. E. MAXFIELD & CO., 136 Liberty St., N. Y., have been formed by H. E. Maxfield, formerly resident agent for the Lawrence centrifugal pumps. They will give attention to inquiries for pumping machinery, hoisting engines, etc.

THE GENERAL FIREPROOFING CO., Youngstown, O., has let the contract for an office building. The building will contain cementine (exterior concrete) on Herringbone expanded steel lath and vaults and all-steel filing equipment made by this company.

JOHNSTON LIVINGSTON, JR., & CO., 13 Park Row, N. Y., have been formed by Johnston Livingston, Jr., and Albin Gustafson to continue the business of the electrical construction department of the United Engineering & Contracting Co., Park Row Bldg., New York.

THE YALE & TOWNE MFG. CO., 9-13 Murray St., N. Y., is offering prizes to mechanics for information concerning triplex chain blocks. This contest is open to all. Practical statements being the only thing required, and not fine writing. The prizes amount to $175.

THE PEDRICK & AYER CO. has removed its plant from Philadelphia to Plainfield, N. J., where new and much larger shops have been built. The main shop is 160 × 400 ft., boiler and engine houses 40 × 40 ft. each, blacksmith shop 40 × 50 ft., pattern and storage shop 45 × 100 ft.

THE MILWAUKEE BRIDGE CO. (formerly the Mil. Structural Steel Co.), Milwaukee, Wis., has begun the construction of its new plant at Fond du Lac Ave. and 32d St. The new company has a capital of $125,000. C. H. Starke, Pres. Starke Dredge & Dock Co., is Pres., and F. W. Moore, Supt.

THE ELECTRIC FIREPROOFING CO., 19th St. and East River, N. Y., recently completed shipments of fireproofed wood to the Fore River Ship & Engine Co. for U. S. cruiser "Des Moines"; also large amount of fireproofed wood to the Brooklyn Navy Yard for the U. S. cruiser "Galveston."

THE RISDON IRON WORKS, of San Francisco, Cal., has secured the contract for 4,000,000 lbs. of steel pipe for the new water power plant being built on Puyallup River near Tacoma, Wash., by the Piece County Imp. Co., S. Z. Mitchell, Gen. Mgr. The delivery is to be made by Feb. 15, 1904.

HUGH MACRAE & CO., of Wilmington, N. C., announce that they have opened a branch office in the Kellogg Bldg., Washington, D. C., and have associated with them Henry A. Pressey, C. E., formerly of the U. S. Geological Survey, and at present Professor Civil Engineering, Columbian University, D. C.

THE WELLMAN-SEAVER-MORGAN CO., of Cleveland, O., has succeeded to the business of the Webster, Camp & Lane Co., of Akron, and the Wellman-Seaver-Morgan Eng. Co., of Cleveland. S. T. Wellman is Pres., John McGregor is Chn., C. H. Wellman is Secy., and A. D. Hatfield is Treas., Cleveland.

THE STANDARD STEAM SPECIALTY CO., 111 5th Ave., N. Y., has recently taken contracts for 20,000 HP. of its apparatus. To facilitate manufacturing and be in a position to carry in stock standard sizes of utility oil separators, from 30 to 10,000 HP., it has leased the premises 542 and 544 West Broadway from May 1.

THE OTTO GAS ENGINE WORKS (T. W. Snow, Mgr.), 360 Dearborn St., Chicago, have taken the agency for the water purification apparatus designed by G. M. Davidson, Chemist and Engineer of Tests of the Chicago & North-Western Ry. The apparatus was described and illustrated in our issue of April 2, and the C. & N. W. Ry. has now about 40 of these plants installed or in course of construction.

THE NATIONAL WOOD PIPE CO., Los Angeles, Cal., has succeeded the California Redwood Pipe Co. under the same management. In addition to the plant now being operated in Los Angeles, another has been installed in San Francisco, and the establishment of additional plants at other points is under consideration. W. E. Hampton is Pres., Walter Carnes is Secy., S. J. Smith is Treas., and J. L. Stannard is Engr.

PAWLING & HARNISCHFEGER, of Milwaukee, Wis., manufacturers of traveling cranes, report that in regard to the fire on April 15, which destroyed one of their buildings, that they have leased the shops lately vacated by the Nordberg Mfg. Co. These shops will be in operation about May 1 and, in connection with the other buildings, will place them in better position to build cranes and hoists than prevailed before the fire. All machinery has already been purchased to equip the shops just acquired.

THE KENNICOTT WATER SOFTENER CO., Great Northern Bldg., Chicago, has secured a contract from the U. P. Ry. for its water-softening plants sufficient to equip practically three-quarters of the entire railway. In the last month U. P. has purchased 25 Kennicott softeners varying in size from 10,000 to 15,000 gallons per hour. The Kennicott company has under construction machines aggregating 20,000,000 gallons, including an order from the Pitts. & Lake Erie R. R., from 15,000 to 60,000 gallons.

THE M. GARLAND CO., Bay City, Mich., has shipped a carload of stave and heading machinery to the Otter Creek Lumber Co., Otter Creek, Fla., consisting of a combination bolter and sawing machine, arranged with variable friction feed, and gang bolter for converting slabs and trimmings into staves and heading. Also a two-saw stave equalizer for sawing staves to length. This machine can also be fitted with crozing heads, and the stave crozed and equalized at one operation. The third machine of the set is Garland's patent rotary head stave jointer, and these three machines make a complete equipment for a first-class stave mill.

THE AMERICAN BLOWER CO., of Detroit, is furnishing heating apparatus for the distillery of J. F. S. Brown & Sons, McBrayer, Ky.; 22d Ward School, Swissvale, Pa.; Am. Column Co., Battle Creek, Mich., and Schlesinger & Meyer, Chicago; dry kilns for the Lansing (Mich.) Spoke Co.; Severance Tank Works, Lansing; Deane & Jones Lumber Co., Eldridge Park, Elmira, N. Y., and the Hazleton (Pa.) Mfg. Co. They are also executing a number of orders for induced draft apparatus, brick dryers, etc. The company has recently opened an office at 615 Hale Bldg., Philadelphia, in charge of Benj. Adams, and another at 318 Frick Bldg., Pittsburg, in charge of H. P. Curtiss.

ENGLAND.—Agencies for American hardware, machinery and other lines of goods are wanted by the following: Georg Stumpeley, Hamburg, Germ.; R. M. Marples & Son, 153 Farringdon Road, London, E. C., Eng.; Valabhdas Punchordas & Co., 19 Humum St., Bombay, India; D. Schurman, Dusseldorf, Germany; A. Rechilder, 333 Esmeralda, Buenos Aires, Argentina; D. Marcus, 62 St. Paul's Sq., Birmingham, Eng.; Diz, Vilaman & Garcia, 4 Canton Pequeno, Corunna, Spain; Max C. Steiner, Prague, Austria; Morten Engebretsen, of Christiana, Norway; Blackwell Sons & Co., Ltd., The Albany, Liverpool, Eng.; Luxemburg Min. & Saarbruck Iron & Steel Works, of Burbacherhutte, Germany; Inniss & Riddle, Elm Road, Chelmsford, Eng.; S. H. Shorrock, Shanghai, China, and 4 Lombard Court, E. C., London, Eng.; Deacon's Advertising Agency, Leadenhall St., London.

THE CHICAGO PNEUMATIC TOOL CO., Chicago, announces that the following companies have ordered tools from it recently: Lake Shore & Mich. So. R. R. (for the new Collingwood shops and various other points on its system); Wabash Ry.; Delaware & Hudson Ry.; Central R.R. of N. J.; Cambria Steel Co., Johnstown, Pa.; Baldwin Loco. Works, Philadelphia; Maher & Flockhart, Newark, N. J.; Am. Bridge Co., Newark; Am. Car & Fdry. Co., Detroit and Berwick, Pa. (exclusive contract for one year); Great Lakes Engr. Co., Detroit; Lackawanna Steel Co., Buffalo; Am. Trading Co., New York; Brownville (N. Y.) Iron Works; Omaha (Neb.) Boiler Works; Boston Bridge Works, Boston; Crerar, Adams & Co., Chicago; Penna. Co., Ft. Wayne, Ind.; Roy H. Beattie, Newport, R. I.; American Loco. Works, Scranton, Pa.; Erie Ry., Susquehanna, Pa.; Empire Granite & Marble Works, Jackson, Mich.

STONE & WEBSTER, of Boston, Mass., managers of electric power, traction and lighting plants along Puget Sound, Wash., have let contracts for generators to the General Electric Co., as follows: six machines, two to be furnished to the Tacoma Industrial Co., for use in the development of the White River, and four to the Pierce County Improvement Co. for the work of developing the Puyallup River, including the flow from the Mt. Rainier glaciers. The generators will be three-phase, 60-cycle, of 3,600-KW. capacity each, at 2,300 volts and 225 revolutions. Deliveries will commence in September. Both of these developments are now being carried forward and it is announced that every effort will be made to complete them at the earliest possible date to meet the growing demands for power in the Puget Sound district and to supply the electric interurban road between Seattle and Tacoma as well, as the railway and power distributing systems in those cities which are now controlled by Stone & Webster.

THE PHILADELPHIA PNEUMATIC TOOL CO., Philadelphia, reports that sales to date for this year exceed those for the same period for last year by 39%. J. W.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

Tierney, Pres. and Treas., has just returned from a five weeks' tour of the far West and Pacific coast, visiting the various branch offices and agencies of the company. New offices were established in the Cooper Bldg., Denver, in charge of W. E. Kreamer, and in the Dooley Block, Salt Lake, in charge of F. E. Arnold. The company is represented in San Francisco by Berger, Carter & Co., 150 Beale St. The Mare Island Navy Yard has recently placed large orders for clippers, riveters and drills, the Keller tools having been specified in the requisition from the construction and repair department. This company also reports orders from the Brooklyn Navy Yard for chipping and riveting hammers, also from the L. S. & Mich. So. Ry., Westinghouse Air Brake Co., and Am. Car & Fdy. Co. The demand for Keller pneumatic tools in Europe shows a steady growth also, particularly from Great Britain, Germany and Italy.

THE WESTINGHOUSE COMPANIES, of Pittsburg, Pa., announce that Westinghouse, Church, Kerr & Co. have the contracts from the Hartford Electric Light Co., Hartford, Conn., for machines to duplicate the steam-turbine equipment. The present Corliss engine will be replaced by two 1,000-HP. turbines, direct connected to revolving field polyphase generators. Contracts for additional engines, dynamos, etc., have seen secured from the N. Y. Edison Co., aggregating 100,000-HP. maximum capacity; N. Y. C. & H. R. R. R. Co., horizontal cross-compound type for the Weehawken, N. J., property; Boston Edison Co., complete equipment of Roney mechanical stokers; Rome Brass & Copper Co., of Rome, N. Y., steam-turbine power equipment; Sherwin-Williams Co., Cleveland, O., steam-turbine power outfit, and the following from the Pittsburg & Mont. Copper Co., Butte, Mont., for the entire mechanical equipment of a new smelter, to be shortly erected in the vicinity of Butte, to comprise: two 160-HP. Westinghouse compound engines driving Connersville blowers; one 85-HP. Westinghouse compound engine driving a 45-KW. D.-C. 125-volt generator, with switchboard; two Westinghouse standard engines; four Roney mechanical stokers for four 250-HP. B. & W. boilers.

THE ALLIS-CHALMERS CO., Milwaukee, reports the following as among the engine sales during March: Tremont & Suffolk Mills, Boston, one 21 and 48 × 48, 1890 cross-compound Reynolds Corliss engine. Carnegie Steel Co., Pittsburg, one 42 and 66 × 60 tandem rolling mill engine; Oliver Iron Mining Co., Duluth, one 16 × 36, 1890 frame Reynolds Corliss engine; Leonoir (N. C.) Cotton Mills, one 28 × 42 low-pressure side; Dawson (Ga.) Square Bale Gin & Mill Co., one 16 × 42 girder frame Reynolds Corliss engine; Lummis & Co., Suffolk, Va., one 12 × 36 girder frame Reynolds Corliss engine; C. L. Vickers, Houston, one 18 × 36, 1890 frame Reynolds Corliss engine; Woodward (Ala.) Iron Co., three 44 and 84 × 60 vertical long crosshead blowing engines; Marietta (Ga.) Knitting Co., one 12 × 36 girder frame Reynolds Corliss engine; Milwaukee (Wis.) Chair Co., one 20 × 42 girder frame Reynolds Corliss engine; So. Side Elevated Ry. Co., Chicago, one 34 and 70 × 54, 1890 horizontal cross-compound Reynolds Corliss engine; Washburn-Crosby Co., Minneapolis, one 26 and 58 × 60, 1890 cross-compound condensing Reynolds Corliss engine; Ill. Steel Co., Chicago, two 46 and 86 × 84 and 84 × 60 vertical steeple cross-compound blowing engines; International Traction Co. of N. J., Jersey City, two 34 and 68 × 48, 1890 cross-compound condensing Reynolds Corliss engines; Schmeichel & Lange, Sutley, So. Dak., one 10 × 30 girder frame Reynolds Corliss engine; Hunter Milling Co., Wellington, Kan., one 12 × 42 jet condenser; Lyon Cypress Lumber Co., Chicago, one 26 × 48, 1890 frame Reynolds Corliss engine; Scranton (Pa.) Bolt & Nut Co., one 18 × 36, 1890 frame Reynolds Corliss engine; Griffin Wheel Co., Chicago, one 18 × 48, 1890 frame Reynolds Corliss engine, with compressor attachment; Penn. R. R. Co., one cross-compound Riedler air compressor, 15 and 24 × 36; Wild Goose Mining & Trading Co., Alaska, spare parts for Riedler pumping engine; Chas. Butters & Co., Ltd., Mexico City, one 14 × 42, 1890 frame Reynolds Corliss engine; two horizontal tubular boilers, E. C., 66 × 16.

NEW COMPANIES.—Field, Hinchman & Smith, Detroit, Mich.; general engineering and architectural contracting; $25,000; H. S. Field, T. H. Hinchman, F. L. Smith.

Block Light Co., 525 Main St., East Orange, N. J.; manufacture lighting appliances; $1,000,000; Gerald A. Griffin, Jas. B. Richardson, Gardner W. Kimball.

North American River & Lumber Co., 525 Main St., East Orange, N. J.; $400,000; C. F. Smith, Chas. A. Greene, F. M. Van Wagonen.

Vermont Unfading Green Slate Co., 525 Main St., East Orange, N. J.; to mine slate; $150,000; Jas. B. Richardson, G. A. Griffin, W. H. Bond.

Dawson Friction Gear Co., 185 Montgomery St., Jersey City, N. J.; $125,000; John W. Avery, New York; E. P. Dawson, H. W. Pierce, Butte, Mont.

Boonton Co., Boonton, N. J., to construct gas and electrical works; $125,000; C. A. De Camp, Raymond Dawson.

Rohmen Automatic Car Fender Co., 186 Newark Ave., Jersey City; $100,000; Dr. W. B. Rohmen, Chas. Marshall, Louis Spotorn, Bay St. Louis, Miss.

Henry A. Frye Steel Hardener Co., New York, N. Y.; manufacture steel hardening compound; $100,000; Walter R. Leventritt, Henry B. Wechsler, Abraham Kleinbaum, New York, N. Y.

Granite Brick Co., New York, N. Y.; $75,000; John H. Derby, Sandy Hill, N. Y.; Daniel P. DeLong, Glen Falls, N. Y.

Atlin-Oroville Dredging Co., 419 Market St., Camden, N. J.; mining; $2,000,000; Jos. F. Cotter, G. W. Grand, J. C. Clow.

Commercial Motor Co., 1 Montgomery St., Jersey City; $250,000; Geo. D. Gregory, Francis P. Page, Harry G. Derby.

Robt. F. Wentz Engineering Co.,186 Newark Ave.,Jersey City; general engineering business; $150,000; Robt. F. Wentz, and H. E. Clewell, Nazareth, Pa.; A. C. Bagg, New York.

U. S. Alternating Current Traction Co., 186 Newark Ave.,Jersey City; manufacturing patented devices; $50,000; J. W. Avery, C. C. Brown, A. C. Bagg.

Coshocton Brick Co., 15 Exchange Pl., Jersey City; $50,000; Benj. P. Cotter, C. J. Bowen, Jas. D. Severn.

George S. Weaver's Sons Co.; manufacturing brick; $30,000; Fred'k G. Weaver, Chas. C. Weaver, all Deerfield, N. Y.

The Lake Superior Contracting & Dredging Co., Augusta, Me.; $1,000,000; M. B. Ward, R. M. Wolvin.

Duquesne Motor Car Co., New York; manufacture automobiles, etc.; $50,000; Le Roy Belletier, H. G. Johnson, Wm. H. Brewster, Buffalo, N. Y.

Security Building & Construction Co., New York, N. Y.; to construct buildings; $50,000; Wm. H. Flaherty, Harry E. Knight, Fred. M. Lande.

Omega Steel Co., Portland, Me.; operate blast furnaces, coke ovens, etc.; $3,000,000; A. C. Conant, J. H. Strange.

PUBLICATIONS RECEIVED.

SELF-PROPELLED VEHICLES.—A Practical Treatise on the Theory, Construction, Operation, Care and Management of All Forms of Automobiles. By James E. Homans. New York: Theo. Audel & Co. Cloth; 6 × 9 ins.; pp. 626; tables, and 466 figures in the text. $2.

SUPPLEMENT TO THE DIRECTORY OF THE IRON AND STEEL WORKS of the United States.—Containing a Classified List of Leading Consumers of Iron and Steel in the United States. Compiled by the American Iron & Steel Association. Corrected to January, 1903. Philadelphia: The American Iron & Steel Association. Cloth; 6 × 9 ins.; pp. 196. $5.

PUBLIC LIGHTING BY GAS AND ELECTRICITY.—By W. J. Dibdin, formerly Chemist and Superintending Gas Examiner to the London County Council. London: The Sanitary Publishing Co. Cloth; 6 × 9 ins.; pp. 537; folding tables, and 216 illustrations, 21 shillings; in the United States, $8.

THE IMPROVEMENT OF RIVERS.—A Treatise on the Methods Employed for Improving Streams for Open Navigation by Means of Locks and Dams. By B. F. Thomas, M. Am. Soc. C. E., U. S. Assistant Engineer, and D. A. Watt, M. Am. Soc. C. E., U. S. Assistant Engineer. New York: John Wiley & Sons. London: Chapman & Hall. Cloth; 10 × 12 ins.; pp. 356; tables, 92 full-page and folding plates, and 26 figures in the text. $6 net; by mail, $6.47.

TRADE PUBLICATIONS.

(The standard sizes for pamphlets and trade catalogues recommended by all the principal engineering societies of the United States are: 3¼ x 6 ins., 6 x 9 ins., and 9 x 12 ins.)

IRRIGATION PUMPING PLANTS.—Irrigation & Mining Supply Co., 1610 Blake St., Denver, Colo. Paper; 5½ × 8 ins.; pp. 8; illustrated.

This pamphlet describes the Colorado vertical inverted gasoline engine and Deluge centrifugal pump as applied to irrigation work.

DRILL SHARPENER.—The Hendrie & Bolthoff Mfg. & Supply Co., 1621 17th St., Denver, Colo. Paper; 6 × 3¼ ins.; pp. 12; illustrated.

The Eclipse drill sharpening, welding and shanking machine is designed for the manufacture and re-sharpening of power drills for quarry and mining work.

ARCHITECTURE.—Designs from the Work of Frank P. Milburn, Architect, Columbia, S. C. Leather; 10 × 6 ins.; pp., not given; illustrated.

This consists chiefly of a collection of views, some in colors, of buildings for which Mr. Milburn was architect. The views are followed by various testimonials.

LOCOMOTIVE EXHAUST NOZZLE.—Economy Car Heating Co., 281 St. John St., Portland, Me. Paper; 4½ × 6 ins.; pp. 12; illustrated.

The Robinson exhaust nozzle has a large body to serve as a steam reservoir and this has an annular discharge opening. It is designed to give a relatively continuous solid column of steam passing up through the smokestack, and causing a steady draft.

SEWER AND BASIN TRAPS.—Perfect Sewer Trap Mfg. Co., 61 Beekman St., New York. Leaflet, 8 × 3¾ ins.; pp. 8; illustrated.

This leaflet relates to the automatic back water and sewer gas and basin traps made by this company for the purpose of preventing sewer gas and foul odors escaping into houses, etc. This trap is known as Lenhart's patent automatic sewer trap valve.

PNEUMATIC TOOLS.—The Baird Portable Machine Co., Topeka, Kan. Paper; 7¼ × 10 ins.; pp. 42; illustrated.

The portable and stationary tools included in this catalogue cover a wide variety for general and special work. There are riveters for boiler and bridge work, port milling machines, portable wood saws and drills, tapping machines, car jacks and painting machines.

GAS METERS.—Pittsburg Meter Co., East Pittsburg, Pa. Paper; 3 × 6 ins.; illustrated.

This little pamphlet on Westinghouse meters opens with the statement that the company, in the past six months, has sold 20,000 Westinghouse gas meters, not including a large number of proportional gas meters, and gas-pressure regulators. The 20,000 meters, or 54 carloads, were shipped to various natural gas companies.

MONITOR FIRE NOZZLES.—Andrew J. Morse & Son, 140 Congress St., Boston, Mass. Paper; 6¼ × 7½ ins.; pp. 4; illustrated.

The Morse monitor nozzle is mounted on a fixed pipe, can be turned through a complete circle horizontally and moved vertically through a considerable angle, being operated by a hand lever. It is said to be specially adapted for use on fireboats and tugs, and warehouses, mills, freight sheds, etc.

ELECTRIC HOISTS AND ROCK DRILLS.—The Denver Engineering Works Co., Denver, Colo. Paper; 8¼ × 10¼ ins.; two pamphlets.; pp. 32 and 12; illustrated.

The larger of these pamphlets shows a variety of electric hoists, with dimensions, capacity, weight, etc., ranging from 5-HP. prospecting hoists to 150-HP. double drum mine hoists. The other pamphlet describes the Box electric rock drill, in which the reciprocating motion is produced by a crank on a shaft driven by a 1½-HP. motor.

STAR SAFETY WATER TUBE BOILERS for Power, Steam Heating, Hot Water Heating. The A. D. Granger Co., 95-97 Liberty St., New York city; 9 × 6 ins.; pp. 13.

The boiler shown in this catalogue may be described as a cross between a locomotive firebox and a Heine water-tube boiler. The claim made for it is that it contains a very large amount of heating surface in a very small space, and this claim is undoubtedly correct. It seems a misnomer, however, to call a boiler containing such a large amount of stay-bolted surfaces a safety boiler, particularly as it appears to be impossible to get at the inner ends of these stay bolts for inspection or repairs.

MINING HOISTS.—The Hendrie & Bolthoff Mfg. & Supply Co., Denver, Colo. Paper; oblong; 6 × 3¼ ins.; pp. 42; illustrated.

A great variety of hoisting plants are shown in this little pamphlet. They include hand windlasses, horse "whims," and larger hoists operated by steam, electricity and gasoline power, for both flat and round ropes, and with single and double drums, up to 300 HP. Dimensions, weights and hoisting capacity are given for the various types.

CONCRETE-STEEL CONSTRUCTION.—St. Louis Expanded Metal Fireproofing Co., Century Building, St. Louis, Mo. Paper; 4¼ × 6¼ ins.; pp. 20.

This ornamental little pamphlet describes the use of concrete reinforced by corrugated steel bars, and discusses the application of this construction to bridges, sewers, walls, etc. With the pamphlet are two circulars, one showing the sizes and weights of the bars, and the other giving a list of works on which this system of construction has been employed.

Mail Delivery Notice.

The first pages of Engineering News go to press on Monday each week, and the last pages, including "Wants," "Proposals" and "For Sale" cards, about Wednesday noon. All papers for Boston, Philadelphia, and Greater New York should be received Thursday morning. All places East of the Mississippi should be reached by Friday afternoon.

If your paper is not received promptly, make a complaint in writing to your local post-office officials. This will cause an investigation, and the complaint will finally reach the office where the delay occurs.

ORDERS FOR ANY BOOKS

that are in the market will be promptly filled. A complete catalogue of our own publications and a list of the latest technical publications of other publishers will be sent on request.

THE ENGINEERING NEWS PUBLISHING CO.,
St. Paul Building,
220 BROADWAY. NEW YORK

10 MILES MACADAM ROADS.

Warren County, N. J.

The Board of Chosen Freeholders of the County of Warren, N. J., will receive bids or proposals for the Macadamizing of ten miles of roads, on Saturday, May 9th. There are two sections—4½ miles in Independence Township and the balance in Greenwich and Pohatcong. The profile and specifications may be seen at the office of Engineer, at St. Cloud Hotel, Washington, N. J.

A. W. CUTLER, Director.
E. V. KING, Engineer. Hackettstown, N. J.
18-1t

GOVERNOR'S ISLAND, N. Y., April 29, 1903.—Sealed proposals, in triplicate, will be received here until 11 a.m., May 14, 1903, for installing Electric Lighting Appliances at Governor's Island, including cable for current from Brooklyn transformer plant, aerial lines, fixtures, wiring buildings. U. S. reserves right to reject any or all bids. Information furnished on application. Envelopes containing proposals should be marked "Proposals for Lighting System," addressed T. NORMAN, Q. M. 18-2t

U. S. ENGINEER OFFICE, New London, Conn., Apr. 14, 1903.—Sealed proposals, in triplicate, for Dredging in New London Harbor, New London, Conn., will be received here until 12 noon, May 15, 1903, and then publicly opened. Information on application. CHAS. F. POWELL, Maj., Engrs. 16-4t

U. S. ENGINEER OFFICE, Army Building, New York, April 15, 1903.—Sealed proposals for dredging in Hudson River and Saugerties Harbor, N. Y., will be received here until 12 m. May 15, 1903, and then publicly opened. Information on application. AMOS STICKNEY, Col., Engrs. 16-4t

For Proposals see pages XXXI., XXXII. of Advertisements, and pages 248, 249, of Supplement.

Information concerning contracts to be let or of supplies to be furnished, and corrections of errors and omissions in published items, are invited.

MACADAM PAVING.

Glencoe, Ill., Apr. 27, 1903.

Public notice is hereby given that the Board of Local Improvements of the Village of Glencoe, Cook county, Ill., will on the 9th day of May A. D. 1903, at 8 o'clock p. m., at the Council Chamber in the Village Hall in said Village, open bids for the Grading, Draining and Macadamizing of parts of South Ave., Hawthorne Ave., Hazel Ave., and Greenleaf Ave., in said Village, in accordance with the ordinance for said work. Specifications for said work may be seen at the office of the Village Clerk in the Village Hall, Glencoe, Ill., and also at the office of the President of said Board, Gordon A. Ramsay, 1302 Title & Trust Bldg., Chicago, Ill. All bids must be sealed and delivered prior to the time above stated and accompanied with cash or a certified check payable to the order of the President of said Board in his official capacity for an amount equal to at least 10% of the aggregate amount of such bid.

Contractors will be paid in Special Assessment Bonds drawing 5% interest, and the Board reserves the right to reject any and all bids, said contract will be let as a whole and the following are approximate quantities:

10,650 sq. yds. of slag and stone macadam;
7,000 cu. yds. of excavation;
1,800 sq. " of sodding;
400 lin. ft. of water pipe to be lowered;
140 sq. yds. of brick cross walks;
500 lin. ft. of concrete gutter;
35 catchbasins;
1,470 lin. ft. of 4-in. drain;
3,225 " of 6-in. drain;
3,155 " of 8-in. drain;
500 " of 10-in. drain;
380 " of 12-in. drain;
28 concrete end curbs.

GORDON A. RAMSAY.
President of the Board of Local Improvements, Glencoe, Ill.

GRANVILLE D. HALL, Village Clerk. 18-1t
FRANK A. WINDES, Engr., Winnetka, Ill
MORTON F. CULVER, Village Attorney,
78 La Salle St., Chicago.

CONCRETE-STEEL ARCH BRIDGE.

NOTICE TO CONTRACTORS.

Richmond, Va., April 30, 1903.

Proposals will be received up to 12 m., on Wednesday, May 20th, 1903, for building a Concrete-Steel Arch Bridge over the railroad tracks, at Bridge St., in the City of Jacksonville, Fla.

The bridge will contain 11 arches, and have a total length of 845 ft., and a width of 58 ft. between hand-railings.

Plans can be examined, also specifications, and blank forms for proposal and contract obtained at the offices of E. B. Pleasants, Chief Engineer Atlantic Coast Line Railroad Co., Wilmington, N.C.; Philip Aylett, Bridge Engineer, Seaboard Air Line Railway Co., Portsmouth, Va.; W. M. Davidson, Secretary and Treasurer, Union Depot Building, Jacksonville, Fla., and the Concrete-Steel Engineering Co., Consulting Engineers, Park Row Bldg., New York city.

Proposals will be entertained only from parties who have at their command the necessary capital and plant for properly doing such work.

The right is reserved to accept any proposal, or to reject any or all proposals.

The contractor will be required to give a satisfactory bond in the amount of $20,000 to secure the faithful performance of the work within the specified time.

A certified check for $1,000, made to the order of E. B. Pleasants, must be deposited with each bid as a guarantee that the bidder will enter into a contract and furnish the required bond in case the work is awarded to him.

Proposals must be submitted on the blanks bound with specifications, and enclosed in a sealed envelope, addressed to E. B. Pleasants, Chief Engineer, care M. Riddle, Superintendent Atlantic Coast Line Railroad Co., Byrd St. Station, Richmond, Va., and be endorsed "Proposal for Bridge St. Bridge." 18-3t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 27, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 8th day of June, 1903, and then opened, for the general construction of the U. S. Post Office, Custom House and Court House, at Cleveland, O., in accordance with the drawings and specifications, copies of which may be had, at the discretion of the Supervising Architect, on application to this office, or the office of the Architect, Arnold W. Brunner, 33 Union Square, West, New York, N. Y. Application must be accompanied by a certified check for $250, which will be held at this office until the return of drawings and specifications. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

U. S. ENGINEER OFFICE, Portland, Ore., April 28, 1903.—Sealed proposals will be received here for constructing Two Iron Towers for Defense, mouth of Columbia River, until 11 a. m., June 8, 1903, and then publicly opened. Information on application. W. C. LANGFITT, Capt., Engrs. 18-3t 23-1t

MACADAM ROAD.

Camden County, N. J.

Sealed proposals will be received and publicly opened and read by the Stone Road Committee of the Camden County Board of Chosen Freeholders at its room in the Court House, in Camden, N. J., on Monday, May 11th, 1903, at 11 a. m., for the construction of a macadam road. Beginning at the intersection of the Haddonfield and Mt. Ephraim Road with White Horse stone road at Haddon Heights and extending westwardly to the Blackwoodtown turnpike, at Mt. Ephraim, a distance of 1.8 miles, more or less.

Specifications and profile can be seen in the County Collector's Office, in said Court House between 9 a. m. and 3 p. m.

A certified check or approved bond in the sum of $1,000 must accompany each bid as a guarantee of good faith. The Board reserves the right to reject any or all bids.

IRVING BUCKLE, Director.
J. J. ALBERTSON, Co. Engr. 18-2t

WATER FILTRATION PLANT.

NOTICE TO CONTRACTORS.

Office of
The Board of Water Commissioners
of the City of Yonkers,
Yonkers, N. Y., April 28, 1903.

Sealed proposals will be received by the Board of Water Commissioners of the City of Yonkers at a meeting thereof to be held at its office, Manor Hall, on Thursday, the 21st day of May next, at 8 p. m., for entering into a contract for building a Water Filtration Plant.

Specifications can be seen and forms of proposals obtained at the office of the Board.

Each proposal must be sealed, addressed to the Board of Water Commissioners of the City of Yonkers, endorsed "Proposal for Building a Water Filtration Plant," and must be accompanied by the written consent of two sureties to become guarantors of the faithful performance of the contract.

The Board of Water Commissioners reserves the right to accept or reject any or all proposals.

By order of the Board.
JOSEPH H. BEALL, President.
A. W. KINGSBURY, Clerk. 18-1t

BRICK PAVEMENT.

NOTICE TO CONTRACTORS.

The City of Pittsburg, Kan., will put in during the summer of 1903, about three miles of Vitrified Brick Pavement, and desires bids on the same. For further information, address CITY CLERK OF PITTSBURG, KAN. 18-1t

WATER PIPE AND CASTINGS.

Holyoke, Mass.

Sealed bids for furnishing 600 tons of 20-in. Cast-iron Pipe and Special Castings will be received by the Board of Water Commissioners, of the City of Holyoke, Mass., until 7:30 p. m. o'clock of the 11th day of May, 1903, Detailed information and proposal blanks will be sent to the bidders on application to the Engineer. The Board of Wate. Commissioners reserves the right to reject any or all bids.

JOHN J. SULLIVAN,
ARTHUR M. FRENCH,
HUGH McLEAN,
Water Commissioners.

JAMES L. TIGHE, Engineer, City Hall. 18-2t

BRICK PAVEMENT.

Paris, Ill., April 25, 1903.

Sealed proposals for 13,776 sq. yds. of Brick Pavement on concrete foundation will be received by Z. T. Baum, President of Board of Local Improvements of the City of Paris, Ill., at the City Engineer's Office, up to 7:30 p.m., May 6, 1903.

Certified check of 10% must accompany bid. Contractors will be paid in cash and bonds. Proposals and specifications can be had from the City Engineer. D. H. SAWYER,
18-1t City Engineer.

COUNTY JAIL.

Monticello, Miss.

Sealed bids will be received until 4 p. m. the 1st day of June, 1903, for building a County Jail, at Monticello, for Laurence County, Miss., according to plans on file in the office of the Chancery Clerk. A certified check amounting to 20% of bid required. The right to reject any or all bids reserved. Plans and specifications also on file in office of F. B. & W. S. Hull, Jackson, Miss.

W. H. SPRIGHTS,
18-1t Clerk, B. S.

IMPROVEMENT OF DELAWARE RIVER.—U. S. Engineer Office, Philadelphia, Pa., April 21, 1903.—Sealed proposals for removing rock and overlying and adjacent material in Delaware River at Schooner Ledge will be received here until 12 o'clock noon, May 22, 1903, and then publicly opened. Information furnished on application. C. W. RAYMOND, Lieut.-Col., Engrs. 17-4t

CONTRACTORS TAKE NOTICE!

One Million Dollars Worth of Good Roads Work

In New York State will soon be advertised in this paper.

ENQUIRE STATE ENGINEER, ALBANY, N. Y. 18-2t

ELECTRIC LIGHT PLANT.

NOTICE OF BIDS FOR PLANS AND SPECIFICATIONS FOR AN ELECTRIC LIGHT PLANT FOR THE CITY OF SAN DIEGO, CAL.

San Diego, Cal

In pursuance of Ordinance No. 1313 of the Ordinances of the City of San Diego, passed and approved on the 17th day of March, 1903, notice is hereby given that the Common Council of the City of San Diego, on the 1st day of June, 1903, will receive sealed proposals or bids for furnishing to the City of San Diego plans and specifications for an Electric Light Plant. Said bids shall be for the furnishing of plans and specifications for an electric light plant of sufficient capacity to supply the said City of San Diego, and the inhabitants thereof, with electric lights, including lighting of the streets and public places in said City with electric lights; that said plant shall be of such power and capacity as will furnish from 200 to 500 arc lights of two (2,000) thousand candle-power each, and the furnishing of sufficient light to the inhabitants of said city.

[Seal.] GEO. D. GOLDMAN,
18-4t City Clerk of said City.

WATER-WORKS.

Tucson, Ariz., April 20, 1903.

Sealed bids addressed to Mayor C. F. Schumacher, Chairman of Water Committee, City of Tucson, Ariz., for furnishing f. o. b. Tucson, Ariz., 1 Cross-Compound Crank and Flywheel High-Duty Pumping Engine, with a capacity of four (4) million gallons in one day of 24 hours, against a total head of 90 lbs. per sq. in., with steam pressure at engine throttle of 100 lbs. per sq. in.

Pumping Engine must have guarantee duty of 115 million foot-pounds, with a 1,000 lbs. of steam with pressure at throttle of 100 lbs. per sq. in. Copy of specifications furnished on application or may be seen at office Superintendent Water Department, Tucson, Ariz. Ter.

Bids will be opened at 12 o'clock noon at City Hall, Tucson, Ariz.Ter., Wednesday, May 20th, 1903.

Bidders must furnish their own drawings for the type of engine submitted.

A certified check on a responsible bank for 10% of the amount of bid, made payable to City Treasurer, J. A. Legarre, must accompany each bid.

The Mayor and Common Council reserve the right to reject any or all bids.

C. F. SCHUMACHER, Mayor.
F. S. TREAT, City Clerk. 18-1t

PAVING.

Geneva, N.Y., April 25, 1903.

Sealed proposals will be received by the Board of Public Works until 10 a. m., May 14, 1903, for furnishing materials, Paving and permanently improving Wadsworth, Bradford and Lake Sts., and a portion of Puiteney St.

Cash or a certified check for 5% of the amount of bid must accompany each proposal.

Specifications giving further information for bidders and form of proposal will be furnished upon application to the undersigned.

Plans and diagrams may be seen at the office of the Board.

Bids are asked for macadam pavement, coal tar macadam pavement, asphaltic macadam pavement, vitrified brick pavement and sheet asphalt pavement.

The work aggregates about 8,000 cu. yds. of excavation, 20,000 sq. yds. of pavement, 12,500 lin. ft. of curbstone, 4,200 lin. ft. of depressed curb, catchbasins and storm water tile.

The Board of Public Works reserves the right to reject any or all proposals and to accept any proposal most advantageous to the City. 18-2t

W. S. WOOD, Secretary.

SEALED PROPOSALS will be received at the office of the Light-House Engineer, Tompkinsville, N. Y., until 1 p. m., Thursday, May 28th, 1903, and then opened, for furnishing the material and labor necessary for the completion and erection of an Oil House at the General Light-House Depot, Tompkinsville, N.Y., in accordance with specifications, copies of which, with blank proposals and other information, may be had upon application to Maj. WILLIAM T. ROSSELL, U. S.A., Engineer Third Light-House District. 18-2t

U. S. ENGINEER OFFICE, Wheeling, W. Va., April 22, 1903.—Sealed proposals for furnishing and delivering irons for Lock for Dam No.18, Ohio River, will be received here until 11 a. m. (Eastern time), May 21, 1903, and then publicly opened. Information furnished on application. GEO. A. ZINN, Major, Engrs. 17-4t

U. S. ENGINEER OFFICE, Rock Island, Ill., April 27, 1903.—Sealed proposals for construction and repair of Dams and Shore Protections between Bellevue and Le Claire, Ia., between Rock Island, Ill., and Burlington, Ia., and between Burlington, Ia., and Hannibal, Mo., will be received here until 11 a. m., May 27, 1903, and then publicly opened. Information on application. JAS. L. LUSK, Major, Engrs. 18-4t

U. S. ENGINEER OFFICE, Pittsburg, Pa., April 23, 1903.—Sealed proposals for building and erecting in place Two Steel Lock Gates at Lock Six, Ohio River, Merrill, Pa., will be received at this office until 12 m., May 13, 1903, and then publicly opened. Information furnished on application. WM. L. SIBERT, Capt., Engrs. 18-3t

U. S. ENGINEER OFFICE, Army Building, New York, April 25, 1903.—Sealed proposals for Dredging and Rock Removal in East River, N. Y., will be received here until 12 m., May 25, 1903, and then publicly opened. Information on application. AMOS STICKNEY, Col., Engrs. 18-4t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 25, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m. on the 1st day of June, 1903, and then opened, for the construction (excepting heating apparatus) of the extension of the U. S. Court House, Post Office, etc., at Montgomery, Ala., in accordance with drawings and specification, copies of which may be had at this office, or at the office of the Custodian at Montgomery, Ala., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

GOVERNOR'S ISLAND, N. Y., April 23, 1903.—Sealed proposals, in triplicate, will be received here until 11 a. m., May 13, 1903, for laying 6-in. Water Main, Governor's Island, with proper connections to buildings. U. S. reserves right to reject any or all bids. Information furnished on application. Envelopes containing proposals should be marked "Proposals for Water Main," addressed T. NORMAN, Q. M. 18-2t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 23, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m. on the 4th day of June, 1903, and then opened, for the construction (including plumbing and heating apparatus) of the U. S. Post Office, etc., extension at Scranton, Pa., in accordance with drawings and specification, copies of which may be had at this office, or at the office of the Custodian, at Scranton, Pa., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

ENGINEER OFFICE, U. S. Army, Room 2, Custom House, Norfolk, Va., April 25, 1903.—Sealed proposals for Dredging Nansemond River, Va., will be received here until 12 m., May 25, 1903, and then publicly opened. Information furnished on application. 18-2t-eow

FORT SLOCUM, N. Y.—Sealed proposals, in triplicate, for constructing Garbage Crematory here will be received until 11 o'clock a. m., May 1, 1903. U. S. reserves right to reject or accept any or all proposals. Envelopes to be marked, "Proposals for Garbage Crematory." Further information can be obtained by applying to the undersigned. EDWARD T. DONNELLY, 1st Lieut., Artillery Corps, Quartermaster. 18-1t

FORT STANTON, N. Y., April 20, 1903.—Sealed proposals, in triplicate, for Grading and for Constructing Roads and Sidewalks here will be received until 2 p. m. May 18, 1903. Information furnished upon application. U. S. reserves right to reject or accept any or all proposals, or any part thereof. Envelopes containing proposals should be endorsed "Proposals for Grading and for Constructing Roads and Sidewalks," addressed C. K. MOWER, 1st Lieut., Q. M. 18-3t

TREASURY DEPARTMENT, Office of the Supervising Architect, Washington, D. C., April 28, 1903.—Sealed proposals will be received at this office until 3 o'clock p. m., on the 10th day of June, 1903, and then opened, for the alterations to the U. S. Custom House, at St. Paul, Minn., in accordance with the drawings and specification, copies of which may be had at this office, or at the office of the Custodian at St. Paul, Minn., at the discretion of the Supervising Architect. JAMES KNOX TAYLOR, Supervising Architect. 18-2t

U. S. ENGINEER OFFICE, 25 Pemberton Square, Boston, Mass., April 23, 1903.—Sealed proposals for Rock Excavation in Boston Harbor, Mass., will be received here until noon, May 26, 1903, and then publicly opened. Information furnished on application. W. S. STANTON, Lieut.-Col., Engrs. 17-3t 21-1t

For Proposals see pages XXXI., XXXII. of Advertisements and pages 248, 249 of Supplement.

ADVERTISERS' CLASSIFIED DIRECTORY.

CONTINUED ON PAGE 159.

Air Brakes.
Westinghouse Air Brake Co, Pittsburg, Pa

Air Compressors.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Air Compressor Wks, 26 Cortlandt st, N Y
American Well Works, Aurora, Ill
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee
Clayton Air Compressor Works, 114 Liberty st, N Y
d'Auria Pumping Engine Co, Drexel bldg, Phila
Fairbanks, Morse & Co, Chicago
General Pneumatic Tool Co, Montour Falls, N Y
Gray-Blaisdell Co, Bradford, Pa
Guild & Garrison, So 10th st, Brooklyn, N Y
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N
Laidlaw-Dunn-Gordon Co, Cincinnati O
McGowan, John H, Co, Cincinnati, O
McKiernan Drill Co, 170 Liberty st, N Y
Norwalk Iron Works, So. Norwalk, Conn
Rand Drill Co, 128 Broadway, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Sullivan Machinery Co, 135 Adams st, Chicago
Vulcan Iron Works, Wilkesbarre, Pa

Air Drill.
Columbus Pneumatic Tool Co, Columbus, Ohio

Air Hose Couplers
Clark Co, W J, Salem, Ohio

Aluminum.
Pittsburg Reduction Co, Pittsburg, Pa

Annealing Boxes.
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg, Pa

Artesian Wells.
Bacon Air Lift Co, 100 Broadway, New York
Cole Bros, 102 Fulton st, New York
Conlan, P H & J, Newark, N J
Cook Well Co, St. Louis, Mo.
Gregory, Elisha, 128 Liberty st, New York
Phillips & Worthington, 11 Broadway, New York
Stothoff Bros, Flemington, N J
Williams Bros, Ithaca, N Y

Artesian Well Tools and Supplies.
Star Drilling Mach Co, 104 Fulton st, New York

Asphalt.
Commercial Asphalt Co, 11 Broadway, New York
Sicilian Asphalt Paving Co, Times bldg, New York
Warren Bros Co, 93 Federal st, Boston

Asphalt Machinery.
Cummer, F D, & Sons, Cleveland, O,
Erie Machine Shops, Erie, Pa
Iroquois Iron Works, Buffalo, N Y

Batteries (Storage).
Coho & Co, H B, 114 Liberty st, New York

Bearings (Ball and Roller.)
Ball Bearing Co, 2322 Market st, Philadelphia
Bantam Mfg Co, Bantam, Conn
Standard Roller Bearing Co, Philadelphia

Balances. (Assay and Analytical.)
Ainsworth, Wm. & Sons, Denver, Colo

Belt Dressing.
Dixon, Jos., Crucible Co. Jersey City, N J
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Canvas.)
Main Belting Co, 1219 Carpenter st, Philadelphia

Belting (Chain)
Aultman Co, Canton, O
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Philadelphia

Belting (Leather)
Graton & Knight Mfg. Co, Worcester, Mass

Belt Lacing. (Steel.)
Bristol Co, Waterbury, Conn

Blast Furnaces.
Girard Boiler & Mfg Co, Girard, O
Means & Fulton Iron Works, Birmingham, Ala
Riter-Conley Mfg. Co, 55 Water st, Pittsburg, Pa

Blocks and Sheaves.
American Hoist & Derrick Co, St Paul, Minn
Boston & Lockport Blk. Co, 160 Commercial st, Boston
Hunt, C W Co, Richm'd Terrace, W N Brighton, S I
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
Yale & Towne Mfg Co, 9-13 Murray st, New York

Blowers.
American Blower Co, Detroit, Mich
Boston Blower Co, Business st, Hyde Park, Mass
Buffalo Forge Co, Buffalo, N Y
Mass. Fan Co, Waltham Mass
Roots, P H & F M Co, Connersville, Ind
Sturtevant, B F Co, Boston, Mass

Blue Printing Apparatus.
Elliott Electric Blue Print Co, Pittsburg.
Emerson Mfg. Co, F W, Rochester, N Y
Keuffel & Esser Co, 127 Fulton st, New York
Pittsburg Blue Print Co, 1505-C Park bldg, Pittsburg
Soltmann, E G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston

Blue Print Paper.
Elliott Electric Blue Print Co, Pittsburg
Keuffel & Esser, 127 Fulton st, New York
Soltman, E.G, 123 E 42d st, New York
Spaulding Print Paper Co, 44 Federal st, Boston
(see also Instruments, Engineering, etc.)

Boiler Supplies.
Glasgow Iron Co, Pottstown, Pa

Boilers.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bacon, Earle C, 26 Cortlandt st, New York
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Fairbanks, Morse & Co Chicago
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Works, East Boston, Mass
Iroquois Iron Works, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego, N Y
Leffel, Jas. & Co, Springfield, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Morris Machine Works, Baldwinsville, N Y
McNeil, Jas. & Bro, 29th & Railroad sts, Pittsburg
Means & Fulton Iron Works, Birmingham, Ala
Mundy, J S, Newark, N J
Petroleum Iron Wks Co, Washington, Pa
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Sharon Boiler Works, Sharon, Pa
Sullivan Machinery Co, 135 Adams st, Chicago
Variety Iron Works Co, Cleveland, Ohio
Warren City Tank & Boiler Works, Warren, O

Boilers (Water Tube.)
Babcock & Wilcox Co, 29 Cortlandt st, New York
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Keeler, E, Co, Williamsport, Pa
Walsh, W J, Holyoke, Mass

Bolt Clippers.
Helwig Mfg Co, St. Paul, Minn

Bolts. (Expansion.)
Church, Isaac, Toledo, O
Steward & Romaine Mfg Co, 120 N 6th st, Phila

Boots and Shoes.
Putman, H J, & Co, 28 Bridge sq, Minneapolis

Brakes.
Brill, J G Co, Philadelphia, Pa
(see also Air Brakes.)

Brass Rolling Machinery.
Poole, Robert, & Son Co, Baltimore, Md

Brick.
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Egyptian Silica Brick Process Co, Fredericksburg, Va
Jackson, John H, Albany, N Y
Johnsonburg Vit Brick Co, Johnsonburg, Pa
Mack Mfg Co, New Cumberland, West Virginia
McAvoy Vit Brick Co, 1345 Arch st, Philadelphia
Purington Paving Brick Co, Galesburg, Ill
Tomkins, Calvin, 120 Liberty st New York
Western Brick Co, Danville, Ill

Brick. (Fire.)
Maurer, Henry, & Son, 422 E 23d st, New York
New York Pottery Co, 12th ave & 36th st, N Y
Syracuse Stoneware Co, Syracuse, N Y

Brick Bond
Union Brick Bond Co, Pittsburg, Pa

Brick Machinery.
Bonnot Co, Canton, Ohio
Drake, C T, 300 W Jackson Boulevard Chicago

Bridge (Concrete).
Abertnaw Construction Co, Boston, Mas

Bridge Operating Machinery.
Edwards, Jos. & Co, 414 Water st, New York
Vulcan Iron Works, Chicago

Bridge Railings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia, Pa
King Bridge Co, Cleveland, O
Massillon Bridge Co, Massillon, Ohio
Stupp Bros, Bridge & Iron Co, St. Louis, Mo

Bridges and Buildings.
American Bridge Co, New York
Baltimore Bridge Co, Bush st & B & O R R, Baltimore
Bellefontaine Bridge & Iron Co, Bellefontaine, Ohio
Berlin Construction Co, Berlin, Conn
Boston Bridge Works, 47 Winter st, Boston, Mass
Champion Bridge Co, Wilmington, Ohio
Chicago Bridge & Iron Co, Chicago
Clinton Bridge & Iron Works, Clinton, Iowa
Columbia Bridge Co, Pittsburg
Concrete-Steel Engineering Co, Park Row bldg N
Easton Foundry & Machine Co, Easton, Pa
Eichleay, Jr., & Co., John, Pittsburg, Pa
Fort Pitt Bridge Works, Pittsburg, Pa
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Havana Bridge Works, Montour Falls, N Y
Joliet Bridge & Iron Co, Joliet, Ill
Kenwood Bridge Co, First Nat. Bank bldg, Chicago
King Bridge Co, Cleveland, Ohio
Massillon Bridge Co, Massillon, Ohio
McClintic-Marshall Construction Co, Pottstown, Pa
Mo. Valley Bridge & Iron Works, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, Ohio
New Castle Bridge Co Indianapolis
New England Structural Co, Boston, Mass
Parker, T A, 202-208 North First st, Terre Haute Ind
Passaic Rolling Mill Co, Paterson, N J
Penn Bridge Co, Beaver Falls, Pa
Pennsylvania Steel Co, Steelton, Pa
Phoenix Bridge Co, Phoenixville, Pa
Riter-Conley Mfg Co, 55 Water st, Pittsburg, Pa
Rogers Iron Co, Springfield, O
San Francisco Bridge Co, 220 Market st, San Franc
Scaife, W B, & Sons Co, Pittsburg, Pa
Shoemaker, Lewis F, & Co, Harrison bldg, Pa
Standard Bridge Co, Omaha
Strobel, C L, Monadnock block, Chicago, Ill
Stupp Bros. Bridge & Iron Co, St. Louis, Mo
Vaile & Young, Baltimore, Md
Variety Iron Works Co, Cleveland, Ohio
Virginia Bridge & Iron Co, Roanoke, Va
Wabash Bridge & Iron Works, Wabash, Ind
Youngstown Bridge Co, 320 Broadway, New York

Bridges (Rolling Lift.)
Scherzer Rolling Lift Bridge Co, Chicago

Buckets (Automatic.)
Brown Hoisting Machinery Co, Cleveland
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Stuebner, G L, Long Island City, N Y
Union Iron Works, Hoboken, N J

Bumping Posts.
McCord & Co, 1445 Old Colony bldg, Chicago
Mechanical Mfg Co, Chicago

Bunkers (Suspension.)
Berquist, A S, 515 Bedford ave, Brooklyn, N Y

Burners (Oil.)
Hammel, C A 120 Fifth st, Los Angeles, Cal

Cableways (Suspension.)
Bacon, Earle C, 26 Cortlandt st, New York
Beatty M, & Sons, Welland, Ont
Broderick & Bascom Rope Co, St. Louis
Carson Trench Machine Co, 19 Dorrance st, Boston
Flory, S, Mfg Co, Bangor, Pa
Lambert Hoisting Engine Co, Newark, N J
Leschen, A, & Sons Rope Co, St. Louis
Lidgerwood Mfg Co, 96 Liberty st, New York
Macomber & Whyte Rope Co, 21 S. Canal st, Chicago
N. J. Foundry & Machine Co, 9 Murray st, N Y
Trenton Iron Co, Trenton, N J
United Telpherage Co, 20-22 Broad st, New York

Calking Yarn and Tools.
Ogden, J. Edward, Co, 149 Cedar st, New York

Car Couplers.
McConway & Torley Co Pittsburg, Pa
Railroad Supply Co, Bedford bldg, Chicago

Car Heating and Lighting.
Brill Co, J G, Philadelphia, Pa
Safety Car Heating & Lighting Co, 160 B'way, N Y

Car Trucks.
Brill, Co, J G, Philadelphia, Pa

Car Wheels.
Brill Co, J G, Philadelphia, Pa
Cayuta Wheel & Foundry Co, Sayre, Pa
Ramapo Iron Works, Hillburn, N Y

Cars (Dump, Plantation, Flat, Hand, Logging Mining and Freight.)
Apex Equipment Co, 11 Broadway, New York
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Efros Co, Chas, Bayonne, N J
Fairbanks, Morse & Co, Chicago
Ingoldsby Auto. Car Co, Chemical bldg, St. Louis
Koppel, Arthur, 68 Broad st, New York
National Drill & Mfg Co, 159 La Salle st, Chicago
Pressed Steel Car Co, Pittsburg, Pa
Ramapo Iron Works, Hillburn, N Y
Standard Steel Car Co, Frick bldg, Pittsburg
Steubner, G L, 176 Third st, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Narrow Gage.)
Brill, J G Co, Philadelphia, Pa
Hunt, C W, Co, Richmond Terrace, W N Brighton, N Y
Koppel, Arthur, 68 Broad st, New York
Western Wheeled Scraper Co, Aurora, Ill
Wonham-Magor Eng. Wks, 29 Broadway, New York

Cars (Passenger & Freight.)
Brill, J G, Co, Philadelphia, Pa
Koppel, Arthur, 68 Broad st, New York

Cars (Wrecking & Ditching.)
Bucyrus Co, S. Milwaukee, Wis
Case Mfg Co, Columbus, O
Osgood Dredge Co, 37 State st, Albany N Y

Castings (Brass.)
Campbell, J B, Brass Works, Cascade st, Erie Pa

Castings (Iron.)
Builders Iron Foundry, Providence, R I
Brooks, T H, & Co, Cleveland, O
Coldwell-Wilcox Co, Newburg, N Y
Columbia Machine Works, 247 Chestnut st, Brooklyn
Dimmick Pipe Co, Birmingham, Ala
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Du Bois Iron Works, Du Bois, Pa
Easton Foundry & Machine Co, Easton, Pa
Fox, John & Co, 268 Broadway, N Y
Massillon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Genesee st, Utica, N Y
Poole, Robert, & Son Co, Baltimore, Md
Reading Foundry Co, Ltd, Reading, Pa
Sessions Foundry Co, Bristol, Conn
Variety Iron Works Co, Cleveland, O
Warren Foundry & Machine Co, 160 Broadway, N Y
(see also Sewer and Street Castings)

Cement (Portland.)
Alpha Portland Cement Co, Easton, Pa
Alsen's Am Portland Cement Wks, 45 Broadway, N Y
American Cement Co, 22 S 15th st, Philadelphia, Pa
Atlas Portland Cement Co, 30 Broad st, New York
Buckeye Portland Cement Co, Bellefontaine, Ohio
Coplay Cement Mfg Co, 1123 Broadway, N Y
Empire Portland Cement Co, Warners, N Y
Fredenburg & Lounsbury, Metropolitan bldg, N Y
French, Samuel H, & Co, Philadelphia
General Supply & Construct'n Co, 8-10 Bridge st, N
Glens Falls Portland Cement Co, Glens Falls, N Y
Hartranft, Wm G, Cement Co, Philadelphia
Helderberg Cement Co, Albany, N Y
Illinois Steel Co, Rookery, Chicago
Kelley Island Lime & Transport Co, Cleveland, Ohio
Lawrence Cement Co, 1 Broadway, New York
Lehigh Portland Cement Co, Allentown, Pa
Sinclair & Babson, 45 Broadway, New York
Snyder, Hiram, & Co, 229 Broadway, New York
St Louis Portland Cement Co, St Louis
Thorn Cement Co, 112 Church st, Buffalo, N Y
Vulcanite Portland Cement Co, 160 Fifth ave, N Y
Warner, Chas, Co, Wilmington, Del

Cement (Rosendale.)
Consolidated Rosendale Cem. Co, 26 Cortlandt st, N Y
Coplay Cement Mfg Co, 1123 Broadway, N Y
Cumberland (Md.) Cement & Mfg Co, P O Box 264
Meacham & Wright, Chamber of Commerce, Chicago
Milwaukee Cement Co, Milwaukee, Wis
Snyder, Hiram, & Co, 229 Broadway, New York
Tomkins, Calvin, 120 Liberty st, New York
Union Akron Cement Co, 141 Erie st, Buffalo, N Y
Western Cement Co, Louisville, Ky

Cement Kilns and Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
Bartlett, C O, & Snow Co, Cleveland, Ohio
Bonnot Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark, J C, Box 525, Atlanta, Ga
Dodge Mfg Co, Mishawaka, Indiana
Kent Mill Co, 170 Broadway, New York
Jeffrey Mfg Co, Columbus, Ohio
Smidth, F L, & Co, 66 Maiden Lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Vulcan Iron Works, Wilkesbarre, Pa
West Pulverizing Mach. Co, Jersey City, N J

Cement Mixer.
Alexander Iron Works, Syracuse, N Y

Chain Blocks.
Yale & Towne Mfg Co, 9-13 Murray st, New York

Chains.
Newhall Chain Forge & Iron Co, 9 Murray st, N Y

Channelers.
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill

Chemists.
McKenna, Chas. F, 221 Pearl st, N Y
(see also Laboratories.)

Chimneys. (Brick.)
Custodis, A, Chimney Const'n Co, Bennett bldg, N Y

Coal and Ore Handling Machinery.
Aultman Co, Canton, Ohio
Bacon, Earle C, 26 Cortlandt st, New York
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Brown Hoisting Machinery Co, Cleveland, O
Exeter Machine Works, Pittston, Pa
Hayward Co, 97 Cedar st, New York
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, Ohio
King Bridge Co, Cleveland, Ohio
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, N Y
Link Belt Engineering Co, Nicetown, Phila
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, New York
N. J. Foundry & Machine Co, 9 Murray st, New York
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Robins Conveying Belt Co, 14-21 Park Row, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
Steubner, G L, 175 Third st, Long Island City, N Y

Colleges (Engineering.) (see page IV.)

Concentrators.
Allis-Chalmers Co, Home Ins bldg, Chicago

Concrete Mixers.
Clyde Iron Works, Duluth, Minn
Cockburn Barrow & Mach. Co, Jersey City, N J
Contractor's Plant Co, 37 Pittsburg st, Boston
Contractors' Supply & Equip. Co, 232 5th av, Chicago
Drake, C T, 300 W Jackson Boulevard, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Iroquois Iron Works, Buffalo
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
McKelvey Concrete Mach'y Co, Security bldg, Chicago
Municipal Eng & Contr'g Co, Manhattan bldg, Chicago
Ransome Concrete Mach'y Co, 11 Broadway, N Y

Concrete Building Apparatus.
Farrell, Thos C, Washington, New Jersey

Condensers.
Alberger Condenser Co, 95 Liberty st, N Y
Allis-Chalmers Co, Home Ins bldg, Chicago
Davidson M T, 58 Keap st, Brooklyn, N Y
Dean Bros, Steam Pump Works, Indianapolis, Ind
Epping-Carpenter Co, Pittsburg
Guild & Garrison, So 10th st, Brooklyn, N Y
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Conduits (Pipe.)
American Vitrified Conduit Co, 170 Broadway, N Y
Blackmer & Post Pipe Co, St. Louis, Mo
Camp, H B, Co, 170 Broadway, New York
Eppinger & Russell Co, 66 Broad st, New York
Field, C J, 29 Broadway, New York
Standard Vitrified Conduit Co, 39 Cortlandt st, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Contractors.
Abbot-Gamble Contracting Co, St. Louis and N Y
American Pipe Mfg Co, 112 N Broad st, Philadelphia
Bates & Rogers Const'n Co, 1203 Manhattan bldg, Chic
Cook Well Co, St. Louis, Mo
Eastern Construction Co, 48 Classon ave, Brooklyn, NY
Eichleay, John, Jr, Co, Pittsburg
Esson, W A, & Co 1137 Stock Exchange bldg, Chicago
Foundation & Contracting Co, 37 Nassau st, New York
Gahagan, W H, 189 Montague st, Brooklyn, N Y
Gest, G M, Cincinnati and New York
Gilbreth, Frank B, 176 Federal st, Boston
Gillespie, T A, Co, Westinghouse bldg, Pittsburg, Pa
McCabe, Jas. F, 504 Equitable bldg, Baltimore, Md
McMullen, Arthur & Co, 13-21 Park Row bldg, N Y
O'Rourke, John F, Park Row bldg, New York
Phillips & Worthington, 11 Broadway, New York
Quigley, R M, & Co, Laclede bldg, St. Louis, Mo
Regan & Mulock, D P, 4429 Chestnut st, Philadelphia
Snare & Triest, 39 Cortlandt st, New York
United Eng & Con Co, 13-21 Park Row, New York
(see also Artesian Wells; Asphalt Paving; Bridges; Dredging; Wharf and Pier Builders.)

Contractors' Tools and Supplies.
Bond, H L, & Co, Pearl & Purchase sts, Boston, Mass
Crane & Co, Inc, A M, The Rookery, Chicago
Gilbreth, Frank B, 176 Federal st, Boston
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia

Conveyors. (See Hoisting and Conveying Machinery; also see Trench Machines.)

Cooling Towers.
Alberger Condenser Co, 95 Liberty st, New York
Davidson, M T, 53 Keap st, Brooklyn, N Y
Worthington, Henry R, Brooklyn, N Y

Cranes.
Am. Hoist & Derrick Co, St. Paul, Minn
Brown Hoisting Machinery Co, Cleveland, O
Bucyrus Co, S Milwaukee, Wis
Case Mfg Co, Columbus, Ohio
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Industrial Works, Bay City, Mich
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Manning, Maxwell & Moore, 85 Liberty st, New York
Marion Steam Shovel Co, Marion, Ohio
Niles Tool Works Co, 136-138 Liberty st, New York
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Wood, R D, & Co, Philadelphia, Pa

Cranes (Portable).
North Penn Iron Co, 3d & Sedgley ave, Philadelphia

Creosoting.
American Creosote Works, New Orleans
Atlantic Creo & Wood Pres Works, Norfolk, Va
Carbolineum Wood Preserving Co, 13 Park Row, N Y
Eppinger & Russell Co, 66 Broad st, New York
International Creosoting & Con. Co, Galveston, Tex
New Orleans Wood Pres Works, New Orleans, La
Norfolk Creosoting Co, Norfolk, Va
U S Wood Preserving Co, 29 Broadway, New York
West Pascagoula Creosote W'ks, W Pascagoula, Miss
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Crucibles.
Dixon, Jos., Crucible Co, Jersey City, N J

Damper Regulators.
d'Este, Julian Co, 15 Canal st, Boston

Derrick and Derrick Fittings.
American Hoist & Derrick Co, St. Paul, Minn
Byers, John F, Machine Co, Ravenna, Ohio
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Dobbie Foundry & Machine Co, 138 Dey st, N Y
Hayward Co, 97 Cedar st, New York
Kaltenbach & Griess, 1618 Williamson bldg, Cleveland
Lambert Hoisting Engine Co, Newark, N J

Diamond Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Sullivan Machinery Co, 135 Adams st, Chicago

Differential Hoists.
Boston & Lockport Block Co, Boston, Mass

Ditching and Excavating Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, S. Milwaukee, Wis
Carson Trench Machine Co, 16 Dorrance st, Boston
Hayward Co, 97 Cedar st, New York
Marion Steam Shovel Co, Marion, Ohio
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, 12 Post Office Square, Boston
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago
Vulcan Iron Works Co, Toledo
Western Wheeled Scraper Co, Aurora, Ill

Diver.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Lowe Wrecking & Diving Co, 2 Coenties slip, N Y

Diving Apparatus.
Morse, Andrew J, & Son, 140 Congress st, Boston
Schrader's, A, Son, 32 Rose st, New York

Docks (Composite and Steel Floating).
Crandall, H I, & Son Co, East Boston, Mass

Doors and Door Fittings.
Kinnear Mfg Co, Columbus, Ohio
N. J. Foundry & Machine Co, 9 Murray st, N Y
Wilson, J Godfrey, 3 W 29th St, N Y

Drafting Tables.
Emerson Mfg. Co, F W, Rochester, N Y
Hein Furniture Co, Toledo, O

Draftsmen's Supplies. (see Instruments.

Drain Tile (see Pipe, Vitrified Clay.)

Dredging and Dredging Machinery.
Atlantic, Gulf & Pacific Co, Park Row bldg, N Y
Beatty, M, & Sons, Welland, Ont
Bowers, A B, San Francisco, Cal
Bucyrus Co, S Milwaukee, Wis
Edwards, Jos., & Co, 414 Water st, New York
Ellicott Machine Co, Baltimore, Md
Falcon, Jos, G, 1110 Ayres Court, Evanston, Ill
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Hayward Co, 97 Cedar st, New York
Lawrence Machine Co, Lawrence, Mass
Marion Steam Shovel Co, Marion, Ohio
Morris Machine Works, Baldwinsville, N Y
Mundy, J S, Newark, N J
Osgood Dredge Co, Albany, N Y
Smith, Theo., & Bro, Jersey City, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works Co Toledo

Drilling and Boring Machines (Portable).
Knight Mfg Co, Canton, Ohio
Philadelphia Pneumatic Tool Co, Philadelphia
Stow Flexible Shaft Co, 26th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y
(see also Pneumatic Tools; also Rock Drills).

Drop Forgings.
Keystone Drop Forge Wks, 2001-63 Clearfield st, Phila

Drop Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Dry Docks (Marine Railway).
Crandall, H I, & Son Co, East Boston, Mass

Dryers (Cement).
American Process Co, 62 William st, New York
Bartlett, C O, & Snow Co, Cleveland, O
Crown Dryer Co, 129 Euclid ave, Cleveland
Cummer, F D, & Son Co, Cleveland, O
Ruggles Coles Engineering Co, 41 Cortlandt st, N Y
Simpson, H S, Mfg's Agt, Electric bldg, Cleveland
West Pulverizing Machine Co, Jersey City, N J

Dynamite (see Explosives).

Dynamos.
C & C Electric Co, Central R R bldg, New York
Coho & Co, H B, 114 Liberty st, New York
General Electric Co, Schenectady, N Y
Storey Motor & Electric Co, Harrison, N J
Stow Mfg Co, Binghamton, N Y
Westinghouse Electric & Mfg Co, Pittsburg, Pa

Economizers (Fuel).
Green Fuel Economizer Co, Matteawan, N Y
Broomell, Schmidt & Steacy Co, York, Pa

Electric Storage Batteries.
Electric Storage Battery Co, Philadelphia

Elevators.
Marine Engine & Machine Co, 1123 Broadway, N Y
Morse Elevator Works, Philadelphia
Otis Elevator Co, 71 Broadway, N Y

Employment Bureaus.
Boston Engineering Agency, 7 Water st, Boston
Brotherhood Steam Shovel & Dredge Engrs., Chicago
Cleveland Engineering Agency, Box 71, Sta. B, Cleve
Engineering Agency, Monadnock blk, Chicago, Ill
Engineering Employment Bureau, Syracuse N Y
Hapgood Bureau, 257 Broadway, N Y
New York Engineering Agency, 35 Warren st, N Y

Engines. (Gas and Gasoline).
American Well Works, Aurora, Ill
Backus Water Motor Co, Newark, N J
Chase Machine Co, Cleveland
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Fairbanks, Morse & Co, Chicago, Ill
Mietz & Weiss, 128 Mott st, New York
New Era Iron Work Co, 37 Dale ave, Dayton, O
Otto Gas Engine Works, Philadelphia, Pa
Snow, T W, (Otto Engine) 360 Dearborn st, Chicago
Springfield Gas Engine Co, Springfield, O
Struthers-Wells Co, Warren, Pa
Temple Pump Co, 15th Place, Chicago
U. S. Wind Eng. & Pump Co, 20 Water st, Batavia, Il
(see also Engines, Oil.)

Engines (Hoisting).
American Hoist & Derrick Co, St. Paul, Minn
Bacon, Earle C, 26 Cortlandt st, New York
Beatty, M, & Sons, Welland, Ont
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F., Machine Co, Ravenna, Ohio
Chase Machine Co, Cleveland
Contractors' Plant Mfg Co, 130 Erie st, Buffalo, N Y
Fairbanks, Morse & Co, Chicago, Ill
Flory, S, Mfg Co, Bangor, Pa
Hunt, C W., Co, Richmond Terrace, W N Brighton, N Y
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg Co, 96 Liberty st, New York
Monighan's Machine Works, 813 Carroll ave, Chicago
Mundy, J S, Newark, N J
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind
Rawson & Morrison Mfg Co, Cambridgeport, Mass
Vulcan Iron Works, Wilkesbarre, Pa
(see also Electric Hoists.)

Engines (Marine).
Buffalo Forge Co, Buffalo, N Y
Kingsford Foundry & Machine Works, Oswego N Y
Morris Machine Works, Baldwinsville, N Y
Otto Gas Engine Works, Philadelphia, Pa

Engines (Oil)
Aultman Co, Canton, Ohio
Mietz & Weiss, 128 Mott st, New York

Engines (Portable).
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Port Huron Engine Co, Port Huron, Mich

Engines (Steam).
Allis-Chalmers Co, Home Ins bldg, Chicago
Buffalo Forge Co, Buffalo, N Y
Erie Pump & Engine Co, Erie, Pa
Fairbanks, Morse & Co, Chicago
Featherstone Fdy & Mach Co, 348 N. Halsted, Chicago
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Lawrence Machine Co, Lawrence, Mass
Leffel, Jas, & Co, Springfield, O
Morris Machine Works, Baldwinsville, N Y
Southwark Foundry & Machine Works, Philadelphia
Sturtevant, B F, Co, Boston, Mass
Struthers, Wells & Co, Warren, Pa
Vulcan Iron Works, Wilkesbarre Pa

Engines (Traction).
Aultman Co, Canton, O
Heisler, Chas. L, Erie, Pa
Kelly, O S, Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich

ADVERTISERS' CLASSIFIED DIRECTORY.

Excavators and Excavating Machinery (see Ditching and Excavating Machinery and Steam Shovels.)

Exhaust Heads
Burt Mfg. Co, Akron, O

Expanded Metal.
Assoc Exp Metal Cos, Room 1209, 256 Broadway, N Y
General Fireproofing Co, Youngstown, O
Truss Metal Lath Co, 40 Gold st, New York
Youngstown Iron & Steel Roofing Co, Youngstown, O

Explosives.
Explosives Mfg Co, Elmira, N Y
Electric Exploder Co, 120 Liberty st, N Y
Kirk, Arthur & Son, Co, 910 Duquesne Way, Pittsburg

Faucets.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Feed Water Heaters.
Allis-Chalmers Co, Home Ins bldg, Chicago
Erie Machine Shops, Erie, Pa
Gem City Boiler Co, Dayton, O
Green Fuel Economizer Co, Matteawan, N Y
Harrison Safety Boiler Wks, 3108 N 17th st, Phila
Patterson, Frank L, & Co, 25 Church st, New York
Robertson, Jas. L, & Sons 192 Fulton st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O

Feed Water Purifiers.
Industrial Water Co, 126 Liberty st, New York
Pittsburg Filter Mfg Co, Pittsburg, Pa
Smith, W F B, Perth Amboy, N J

Fencing. (Wire).
American Steel & Wire Co, New York & Chicago
Jones National Fence Co, Columbus, O
Lane Wire Fence Co Adrian, Mich

Filler. (Leather).
Butler, A G, 284 Pearl st, New York

Filing Cases.
Art Metal Construction Co, Jamestown, N Y
General Fireproofing Co, Youngstown, O

Filter Presses.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Filters.
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Deutsch, W M, 141 Broadway, N Y
Jackson Filter Mfg Co, St Louis
Loomis-Manning Filter Co, Philadelphia, Pa
N Y Continental-Jewell Co, 15 Broad st, N Y
Norwood Engineering Co, Florence, Mass
Pittsburg Filter Mfg Co, Pittsburg, Pa
Ross Valve Co, Troy, N Y
Scaife, Wm. B, & Sons Co, Pittsburg

Filters (Oil).
Burt Mfg Co, Akron, O
Robertson, Jas L, & Sons, 192 Fulton st, New York

Fire Department Supplies.
Morse, Andrew J, & Son, 140 Congress st, Boston, Mass

Fire Proofing.
Aberthaw Construction Co, Boston, Mass
Berger Mfg Co, Canton, O
Bromley, A H, Jr, 112 N Broad st, Philadelphia
Hennebique Patents 1123 Broadway, N Y
Metropolitan Fire Proofing Co, Trenton, N J
Roebling Construction Co, 121 Liberty st, New York
St Louis Expanded Metal Fireproofing Co, St Louis
Wight, W N, & Co, 160 Fifth ave, New York
(see also Expanded Metal, also Concrete Steel Construction.)

Fire Proofing (Hollow Tile).
Maurer, Henry & Sons, 422 E 23d st, New York

Fire Proofing (Wood).
Electric Fireproofing Co, 19th st, and East River, N Y

Fittings (Flanged).
McLeod Co, 95 Liberty st, New York

Flexible Pipe Joint.
Falcon, Jos. G, 1110 Ayres Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich

Flexible Shafts.
Stow Flexible Shaft Co, 16th & Callowhill sts, Phila
Stow Mfg Co, Binghamton, N Y

Flue Lining (Fire Clay).
Jackson, John H, Albany, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th sts, N Y
Syracuse Stoneware Co, Syracuse, N Y

Flush Tanks.
Pacific Flush Tank Co, 48 La Salle st, Chicago

Fly Wheels.
Poole, Robert, & Son Co, Baltimore, Md

Forges (Portable).
Buffalo Forge Co, Buffalo, N Y
Roots, P H & F M, Co, Connersville, Ind
Tate, Jones & Co, Pittsburg Pa

Forgings.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Baker, Jas H, Mfg Co, 508 Park bldg, Pittsburg, Pa
Brill, J G, Co, Philadelphia, Pa
Cleveland City Forge & Iron Co, Cleveland
Keystone Drop Forge Wks, 2001-23 Clearfield st, Phila
Pennsylvania Steel Co, Steelton, Pa

Friction Clutches.
Brown Hoisting Machinery Co, Cleveland
Dodge Mfg Co, Mishawaka, Indiana
Link Belt Engineering Co, Nicetown, Philadelphia
Smith, S Morgan, Co, York, Pa

Frogs, Switches and Crossings.
Elliot Frog & Switch Co, East St. Louis, Ill
N Y Switch & Crossing Co, Hoboken, N J
Pennsylvania Steel Co, Steelton, Pa
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Fuel Economizers (see Economizers).

Furnaces (Gas).
American Gas Furnace Co, 23 John st, New York

Furnaces (Oil).
Petroleum Iron Works, Washington, Pa
Tate, Jones & Co, Empire bldg, Pittsburg

Furniture (Steel).
General Fireproofing Co, Youngstown, O

Gages (Steam).
Crosby Steam Gage & Valve Co, Boston

Galvanized Iron and Steel.
Am Sheet Steel Co Battery Park bldg, New York

Galvanizing Kettles.
Columbiana Boiler Co, Columbiana, Ohio
Enterprise Boiler Co, Youngstown, Ohio

Garbage Dump Carts (see Wagons and Carts).

Garbage Furnace.
Morse-Boulger Destructor Co, 39 Cortlandt st, N Y
Smith-Siemens Garbage Furnace, 141 Broadway, N Y

Gas Fittings.
Campbell, J B, Brass Works, Cascade st, Erie, Pa

Gas Holders.
Wood, R D, & Co, 400 Chestnut st, Philadelphia
(see also Stand-Pipes and Tanks.)

Gas Machinery.
American Gas Furnace Co, 23 John st, New York
Gas Machinery Co, Cleveland, O
National Drill & Mfg Co, Chicago, Ill
Norwalk Iron Works, South Norwalk, Conn
Roots, P H, & F M, Co, Connersville, Ind
Wood, R D, & Co, Philadelphia, Pa

Gas Works.
Gas Machinery Co, Cleveland, Ohio

Gaskets.
McCord & Co, 1445 Old Colony bldg, Chicago
U S Mineral Wool Co, 143 Liberty st, New York

Gates (Railway).
Jones National Fence Co, Columbus, O
Pneumatic Signal Co, 1122 Broad-Exchange bldg, N Y

Gearing.
Caldwell, H W, & Son Co, Chicago
Morse Elevator Works, Philadelphia
Poole, Robert, & Son Co, Baltimore, Md
Smith, S. Morgan, Co, York, Pa

Gear-Wheels.
Taylor Iron & Steel Co, High Bridge, N J

Gloves (Hand Made).
Luther, J P, Glove Co, 538 Pearl St, Berlin, Wis

Governors (Water-Wheel).
Lombard Governor Co, 36 Whittier st, Boston
Replogle Governor Works, Chestnut st, Akron, O

Graders.
Austin Mfg Co Manhattan bldg, Chicago
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
Shuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Grain Elevators (see Tanks, grain storage.)

Granite (see Stone, also Paving Blocks).

Graphite.
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos., Crucible Co, Jersey City, N J
Goheen Mfg Co, Canton, Ohio
Internat'l Acheson Graphite Co, Niagara Falls, N Y

Grate Bars.
Cobbie Foundry & Mach Co, 138 Dey st, N Y
Robertson, Jas L, & Sons, 192 Fulton st, New York

Greenhouses.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J

Hanger (Joist).
Clark Co, W J, Salem, Ohio
Columbian Hardware Co, Cleveland, Ohio
Duplex Hanger Co, Cleveland, Ohio

Headlights (Locomotive).
Brill, J G, Co, Philadelphia
Dressel Ry Lamp Works, 3876 Park ave, New York
Railroad Supply Co, Bedford bldg, Chicago

Heating and Ventilating (Steam & Hot Water
American Blower Co, Detroit
Am. District Steam Heating Co, Lockport, N Y
Keeler, E, Co, Williamsport, Pa
Mass. Fan Co., Waltham, Mass

Hoisting Engines (see Engines, Hoisting).

Hoisting and Conveying Machinery.
Aultman Co, Canton, O
Beatty, M, & Sons, Welland, Ont
Bartlett, C O, & Snow Co, Cleveland, O
Brown Hoisting Machinery Co, Cleveland, O
Byers, John F, Machine Co, Ravenna, O
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Cresson Co. Geo. V, Philadelphia
Carson Trench Machine Co, Boston, Mass
Dodge Mfg Co, Mishawaka, Indiana
Exeter Machine Works, Pittston, Pa
Garland, M, Co, Bay City, Mich
Hunt, C W, Co, Richmond Terrace, W N Brighton NY
Jeffrey Mfg Co, Columbus, Ohio
Kaltenbach & Grieas, 1618 Williamson bldg, Cleveland
King Bridge Co, Cleveland, Ohio
Lidgerwood Mfg Co, 96 Liberty st, New York
Lambert Hoisting Engine Co, Newark, N J
Link Belt Engineering Co, Nicetown, Philadelphia
Main Belting Co, 1219 Carpenter st, Philadelphia
Mead, John A, & Co, 7 Broadway, N Y
Pawling & Harnishfeger, 167 Clinton st, Milwaukee
Robins Conveying Belt Co, 14-21 Park Row, N Y
Steel Cable Engineering Co, 120 Liberty st, New York
Trenton Iron Co, Trenton, N J
Union Iron Works, Hoboken, N J
United Telpherage Co, 20-22 Broad st, N Y

Hoists (Electric).
Hunt, C W, Co, Richmond Terrace, WN Brighton, NY
Lambert Hoisting Engine Co, Newark, N J
Lidgerwood Mfg. Co, 96 Liberty st, N Y
Pawling & Harnischfeger, 167 Clinton st, Milwaukee
Rawson & Morrison Mfg Co, Cambridgeport, Mass
United Telpherage Co, 20-22 Broad st, New York

Hoists (Pneumatic).
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Christensen, N A, 1212-17 Herman bldg, Milwaukee

Hooks (Hoist, Grab, etc.)
Baker, Jas. H, Mfg Co, 508 Park bldg, Pittsburg
Roebling's, John A. Sons Co, Trenton, N J

Hose (Metal).
Moore Chas. C, & Co, 32 First st, San Francisco

Hose (Rubber).
McKiernan Drill Co, 170 Liberty st, N Y

Hose (Suction).
Edson Mfg Co, 255 Atlantic ave, Boston

Hydrants and Valves.
Bourbon Copper & Brass Works, Cincinnati, O
Cayuta Wheel & Foundry Co. Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Clow, J B & Sons, Lake & Franklin sts. Chicago
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Drummond, M J, & Co, 192 Broadway, N Y
Fox, John & Co, 253 Broadway, N Y
Kennedy Valve Mfg Co, 50 Beekman st, N Y
Loetzer Valve & Mfg Co, Towanda, Pa
Ludlow Valve Mfg Co, Troy, N Y
McLean, John, 298 Monroe st, New York
Millar, Chas. & Son, Co, Utica, N Y
Norwood Engineering Co, Florence, Mass
Reading Foundry Co, Ltd, Reading, Pa
Ross Valve Co, Troy, N Y
Smith, A P, Mfg Co, Newark, N J
Thompson, J, & Co, Philadelphia, Pa
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Jacks.
Watson-Stillman Co 210 E. 43d st, New York

Hydraulic Leather Packing.
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Detroit Leather Specialty Co, 900 Michigan av, Detroit

Hydraulic Machinery.
Dayton Globe Iron Work Co, 7 Ludlow st, Dayton, O
Deming Co, Salem, Ohio
Pelton Water Wheel Co, 134 Main st, San Francisco
Watson-Stillman Co, 210 E 43d st, New York
Wood, R D, & Co, Philadelphia, Pa

Hydraulic Presses.
Watson-Stillman Co, 204 E 43d st, New York
Wood, R D & Co, 400 Chestnut st, Philadelphia

Hydraulic Rams.
Pelton Water Wheel Co, 134 Main st, San Francisco

Ice and Refrigerating Machinery.
Featherstone Foy & Mach Co. 348 N Halsted, Chicago

Indicators (Steam Engine).
Ashcroft Mfg Co, 85 Liberty st, New York
Crosby Steam Gage & Valve Co, Boston, Mass
Robertson, Jas L. & Sons, 192 Fulton st, N Y

Injectors.
Hayden & Derby Mfg Co, 85 Liberty st, New York
Lunkenheimer Co. Cincinnati, Ohio

Instruments (Engineering, Drafting).
Ainsworth, Wm. & Sons, Denver Colorado
Albrecht, C. R., 62 Fulton st, New York
Aloe, A S, Co, 414 N Broadway, St. Louis, Mo
Altenedor, Theo, & Sons, 945 Ridge ave, Phila, Pa
Archts' & Engrs' Supply Co, 1011 Walnut st, Kan. City
Beckman, L, 57 Adams st, Toledo, Ohio
Berger, C L, & Sons, 37 Williams st, Boston, Mass
Brandis, F E, Sons & Co, 814 Gates ave, Brooklyn, NY
Brown & Sharpe Mfg Co, Providence, R I
Buff & Buff Co, J P Station, Boston, Mass
Dietzgen, Eugene, Co, 181 Monroe st, Chicago
Engineers' Instrument Exchange, Scranton, Pa
Gurley, W & L E, Troy, N Y
Hardtmuth, L & C, 49 Barclay st, New York
Keller & Brightly Spring Garden st & Ridge av, Phila
Hetherschied Mfg Wks, Grand Rapids, Mich
Keuffel & Esser Co, 127 Fulton st New York
Knight, F C, & Co, 400 Locust ave, Philadelphia Pa
Koelsch & Co, 138 Fulton st, New York
Ledder, G G, 302 School st, Boston
Lietz, A, Co, 422 Sacramento st, San Francisco, Cal
Mahn & Co. 300-302 Olive st, St. Louis
Pfister, Herm, 428 Plum st, Cincinnati, O
Prince, L M, 108 West 4th st, Cincinnati, O
Queen & Co, Inc, Philadelphia, Pa
Saegmuller, G N, Washington, D C
Sala, J C, 429 Montgomery st, San Francisco
Schwencke, Kirk & Co, 26 Church st, New York
Soltmann, E G, 123 E 23d st, New York
Stackpole & Bro, 36 Fulton st, New York
Stanley, W F, & Co, Great Turnstile, Holborn, London
Steckenreiter Mfg Co, Chicago, Ill
Ulmer, J C, & Co, 224 Champlain st, Cleveland, Ohio
Universal Drafting Mach Co, Blackstone bldg, Cleve
Weber, F, & Co, Philadelphia
Williams, Brown & Earle, 918 Chestnut st, Phila
Wittstock, P & R, Berlin, S. 59, Germany
Young & Sons, 43 N. 7th st, Philadelphia

Insulating Materials.
Standard Paint Co, 103 William st, New York

Iron Work (Ornamental).
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Belmont Iron Works, Philadelphia Pa
Brooks, T H, & Co, Cleveland, O
Rogers Iron Co, Springfield, O
Schrieber, L, & Sons Co, Cincinnati, O
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Walton Iron Co, Cincinnati, O

Iron Work (Structural).
(see Structural Steel and Iron Work.)

Jacks
Duff Mfg Co, Allegheny, Pa
Norton, A O, 286 Congress st, Boston
Watson-Stillman Co, 210 E 43d st, N Y

Labor (Italian).
Italo-American Trust Co, 725 Carpenter st, Phila
Yuzzolino, N, 73 Mulberry st, New York

Laboratories (Chemical and Testing).
Booth, Garrett & Blair, Philadelphia, Pa
Hunt, R W, & Co, Rookery, Chicago
McKenna, Chas F, 221 Pearl st, New York
Pittsburg Testing Laboratory, Pittsburg, Pa
Riehle Bros. Test & Machine Co, Philadelphia, Pa

Lamps (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Lathing (Metallic).
Berger Mfg Co, Canton, O
General Fireproofing Co, Youngstown, O
(see also Fireproofing.)

Lead (Pig).
Millar, Chas & Son Co, Utica, N Y
Ogden, J Edward Co, 147 Cedar st, New York

Lead Furnaces.
McLean, John, 298 Monroe st, New York
Ogden, J Edward Co, 147 Cedar st, New York
Union Iron Works, Hoboken, N J

Light (Contractors').
Kitson Hydro-Carbon Htg & Lighting Co, Phila
Macleod & Co, Walter, Cincinnati Ohio
Wells Light Co, 44 Washington st, New York

Locomotive Tires.
Latrobe Steel Co, 1200 Girard bldg, Philadelphia, Pa

Locomotives.
American Locomotive Co, 25 Broad st, New York
Baldwin Locomotive Works, Philadelphia, Pa
Heisler, Charles L, Erie, Pa.
Porter, H K Co, Pittsburg, Pa.

Locomotives (Contractors').
Avery, C F, 114 Liberty st, New York
Byers, John F, Machine Co, Ravenna, Ohio
Fitz-Hugh & Co, Chicago and New York
Porter, H K, Co, Pittsburg, Pa
Vulcan Iron Works, Wilkesbarre, Pa

Locomotives (Electric and Mining).
Baldwin Locomotive Works, Philadelphia, Pa
Brill, J G, Co, Philadelphia
General Electric Co, Schenectady, N Y
Jeffrey Mfg Co, Columbus, O
Koppel, Arthur, 66 Broad st, New York
Patton & Co, J. R., House bldg, Pittsburg, Pa
Porter, H K, Co, Pittsburg, Pa
Westinghouse Electric & Mfg Co, Pittsburg

Locomotive Headlights.
(see Headlights, Locomotives.)

Locomotives (Second hand).
(See Railway Equipment, Dealers.)

Lubricants.
Dixon, Jos, Crucible Co, Jersey City, N J

Lubricators.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Lumber (Creosoted).
American Creosote Works, Ltd, New Orleans, La
Atlantic Creo & Wood Pres Wks, 10 Bridge St, N Y
Carbolineum Wood Pres Co, 15 Park Row, N Y
International Creosoting & Con Co, Galveston, Tex
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va
(see also Creosoting)

Lumber (Dock).
Vanderbilt & Hopkins, 126 Liberty st, New York

Machinery (Second hand).
Braden, Jas A, 514 Park Row bldg, New York
Briggs, Marvin, 12 Broadway, New York
Carlin Machy & Supply Co, 186 Lacock st, Allegheny
Chicago House Wreck Co, W. 35th & Iron sts, Chicago
Contractors' Supply Co, 1531 Monadnock blk Chicago
Contractors' Plant Depot, 29 William st, New York
Donaldson & Newton, 421 Chestnut st, Philadelphia
Driscoll, J. T., McCormick bldg, Chicago
Efros Co, Chas. Bayonne, N J
Fitz-Hugh Co, Monadnock block, Chicago
Grant & Harper Machy Co, Park Row bldg, New York
Low, Edgar S, Co, Empire bldg, Pittsburg
Saxton, J C, 18 Broadway, New York
Troy Public Works Co, 1 Mann bldg, Utica, N Y
Whitney, O R, 39 Cortlandt st, New York
Young, E R, & Sons, Titusville, Pa

Machine Tools.
Manning, Maxwell & Moore, 85 Liberty st, New York
Niles Tool Works Co, 136-138 Liberty st, New York

Mail Chutes.
Cutler Mfg Co, Rochester, N Y

Manholes and Covers.
(See Sewer and Street Castings; also Castings, Iron.)

Measure (Rotary).
Steckenreiter Mfg Co, 98 Lake st, Chicago, Ill

Measuring Tapes. (Steel).
Chicago Steel Tape Co, 508 Temple Court, Chicago
Johnston, Robt, Wilkesbarre, Pa
Keuffel & Esser, 127 Fulton st, New York
Lufkin Rule Co, Saginaw, Mich
Starrett, L S, Co, 86 Crescent st, Athol, Mass

Merchandise Checks.
Am. Ry Supply Co, 24 Park Place, New York

Mechanical Draft.
American Blower Co, Detroit
Buffalo Forge Co, Buffalo, N Y
Sturtevant, B F, Co, Boston, Mass
(see also Blowers.)

Metal Hose (See Hose, Metal).

Meters (Current).
Berger, C L & Sons, 9 Province st, Boston, Mass

Meters (Electric).
General Electric Co, Schenectady, N Y
Westinghouse Electric & Mfg Co, Pittsburg

Meters (Gas).
Pittsburg Meter Co East Pittsburg Pa

Meters (Water).
Buffalo Meter Co, 363 Washington st, Buffalo
Builders Iron Foundry, Providence, R I
Cole, E S, 635 Park Row bldg, New York
Hersey Mfg Co, Boston, Mass
Neptune Meter Co, 253 Broadway, New York
Pittsburg Meter Co, East Pittsburg, Pa
Thomson Meter Co, 79 Washington st, Brooklyn, N Y
Union Water Meter Co, Worcester, Mass
Worthington, Henry R, Brooklyn, N Y

Mining Machinery.
Allis-Chalmers Co, Home Ins bldg, Chicago
American Diamond Rock Drill Co, 95 Liberty st N Y
Blanton E A, Jr, The Bourse, Philadelphia
Bradley Pulverizer Co, 92 State st, Boston, Mass
Bucyrus Co, S. Milwaukee, Wis
Fairbanks, Morse & Co, Chicago
General Electric Co, Schenectady, N Y
Jeffrey Mfg. Co, Columbus, O
Lidgerwood Mfg Co, 96 Liberty st, N Y
Marion Steam Shovel Co, Marion, Ohio
Rand Drill Co, 128 Broadway, N Y
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Vulcan Iron Works, Wilkesbarre, Pa

Mortar Mixers.
Drake, C T, 300 W Jackson Boulevard, Chicago

Motors (Electric). (see Dynamos.)

Non-Conducting Covering.
U S Mineral Wool Co, 143 Liberty st, New York

Nut Locks.
National Elastic Nut Co, Milwaukee, Wis

Oil Burners.
Hammel, C A, 120 Fifth st, Los Angeles, Cal

Oil Cups.
Crane Co, Chicago, Ill
Lunkenheimer Co, Cincinnati, Ohio

Oil Mill Machinery.
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio

Oilless Bearings.
No Am Metaline Co, 6 West ave, Long Island City, N

Ore Handling Machinery.
(see Coal and Ore Handling Machinery.)

Packing.
Detroit Leather Specialty Co, 900 Michigan av, Detro
Robertson, Jas L, & Sons, 192 Fulton st, New York

Painting Machines (Pneumatic).
Hook, F E, Hudson, Mich
Macleod & Co, Walter, Cincinnati, O

Paint Pigment.
Internat'l Acheson Graphite Co, Niagara Falls N Y

Paints.
Carbolineum Wood Pres Co, 13 Park Row, N Y
Chilton Paint Co, 69 Cortlandt st, N Y
Detroit Graphite Mfg Co, Detroit, Mich
Dixon, Jos, Crucible Co, Jersey City, N Y
Goheen Mfg Co, Canton, Ohio
Heath & Milligan Mfg Co, Chicago
Hook, F E, Hudson, Mich
Michigan Paint Co, 65 Woodland ave, Cleveland, O
National Paint Works, Williamsport, Pa
Rinald Bros, 1142 N Hancock st, Philadelphia
Sicilian Asphalt Paving Co, Times bldg, New York
Standard Paint Co, 103 William st, New York
Toch Bros, New York

Paint (Cold Water).
Bird & Co, J A & W, 10 Well st, Boston

Patent Attorneys.
Hill, Thos A, 261 Broadway, New York
Straley, Hasbrouck & Schloeder, 257 Broadway, N

Patterns (Wood).
Balkwill Pattern Works, 970 Hamilton st, Cleveland

Pattern Letters.
Butler, A G, 284 Pearl st, New York

Paving (Bituminous-Macadam).
Warren Bros Co, 93 Federal st, Boston

Paving Blocks (Stone).
Leopold, J, & Co, 18 Broadway, New York
(See also Stone.)

Paving Brick (see Brick).

Perforated Metals.
Harrington & King Perforating Co, Chicago, Ill

Pile Driving Machinery.
American Hoist & Derrick Co, St. Paul, Minn
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee Wis
Contractors' Plant Mfg Co, Buffalo, N Y
Lidgerwood Mfg Co, 96 Liberty st, N Y
Mundy, J S, Newark, N J
Toledo Foundry & Machine Co, Toledo, Ohio
Vulcan Iron Works, Chicago, Ill

Pile Hammers.
Vulcan Iron Works, Chicago, Ill

Piling.
American Creosote Works, Ltd, New Orleans, La
Atlantic Creosot. & Wood Pres. Co, 10 Bridge st, N Y
Eppinger & Russell Co, 66 Broad st, New York
Meredith, J P, Memphis, Tenn
New Orleans Wood Preserving Works, New Orleans
Norfolk Creosoting Co, Norfolk, Va
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Cast Iron).
Builders Iron Foundry, Providence, R I
Byers, John F, Machine Co, Ravenna, Ohio
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Dimmick Pipe Co, Birmingham, Ala
Dimmick, J K, & Co, 1049-51 Drexel bldg, Phila
Donaldson Iron Co, Emaus, Pa
Drummond, M J, & Co, 192 Broadway, New York
Fox, John, & Co, 253 Broadway, New York
Musellon Iron & Steel Co, The Rookery, Chicago
Millar, Chas, & Son Co, Utica, N Y
Reading Foundry Co, Ltd, Reading, Pa
Snow, T W, 390 Dearborn st, Chicago, Ill
U S Cast Iron Pipe & Fdry Co, 217 La Salle st, Chicago
Warren Foundry & Machine Co, 100 Broadway, N Y
Wood, R D, & Co, Philadelphia, Pa

Pipe (Culvert). See Pipe, Vitrified Clay.

Pipe (Lead).
Millar, Chas, & Son Co, Utica, N Y

Pipe (Riveted Steel).
Carroll-Porter Boiler & Tank Co, Pittsburg, Pa
Columbiana Boiler Co, Columbiana, Ohio
Gillespie, T A, Co, Pittsburg, Pa
Keeler, E, Co, Williamsport, Pa
McNeil, Jas, & Bro, 29th & Railroad sts, Pittsburg Pa
Means & Fulton Iron Works, Birmingham, Ala
Pelton Water Wheel Co, 134 Main st, San Francisco
Scaife, Wm B, & Sons Co, Pittsburg, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Warren City Tank & Boiler Works, Warren, O
Weigele Riveted Steel Pipe Works, Denver, Colo

Pipe (Spiral Riveted).
Am Spiral Pipe Works, 64-66 Wabash ave, Chicago

Pipe (Vitrified Clay).
American Sewer Pipe Co, Pittsburg, Pa
Blackmer & Post Pipe Co, St Louis, Mo
Dickey, W S, Clay Mfg Co, Kansas City, Mo
Evens & Howard Fire Brick Co, St Louis, Mo
Illinois Mfg Co, Macomb, Ill
Jackson, John H, Albany, N Y
Millar, Chas, & Son Co, Utica, N Y
Monmouth Mining & Mfg Co, Monmouth, Ill
New York Pottery Co, 12th ave & 36th st, N Y
Robinson Bros & Co, Akron, O
Syracuse Stoneware Co, Syracuse, N Y

Pipe (Wooden).
American District Steam Co, Lockport, N Y
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Pipe (Wrought Iron).
Crane Co, Chicago, Ill
Fox, John & Co, 253 Broadway, New York
National Tube Co, Pittsburg
Pittsburg Pipe & Iron Co, Allegheny, Pa
California Redwood Pipe Co, Los Angeles

Pipe Casing.
U S Mineral Wool Co, 143 Liberty st, New York

Pipe Cutting and Threading Machines.
Saunder's, D, Sons, Yonkers, N Y

Pipe Fittings and Flanges.
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
Latrobe Steel Co, Girard bldg, Philadelphia
National Tube Co, Pittsburg
Thompson, J, & Co, Van Horn & Sophia sts, Phila
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Joint (High Pressure).
Tight Joint Co, 306-310 East 47th st, New York
Walworth Mfg Co, Boston

Pipe Jointers.
Watkins, Thos, Johnstown, Pa

Pipe Laying (Submarine).
Falcon, Jos G, 1110 Ayers Court, Evanston, Ill
Holmes, A L, Grand Rapids, Mich
Low Wrecking & Diving Co, 2 Coenties Slip, N Y

Pipe Line Supplies.
Ogden, J Edward Co, 147 Cedar st, New York

ADVERTISERS' CLASSIFIED DIRECTORY.

Pipe Tapping Machines (See Tapping Machines)

Plaster.
Rock Plaster Co, 11 Broadway, N Y

Plows (see Scrapers and Plows).

Plumbers' Supplies.
Campbell, J G, Bras Works, Cascade st, Erie, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Millar, Chas, & Son, Utica, N Y

Pneumatic Tools.
Chicago Pneumatic Tool Co, Fisher bldg, Chicago
Columbus Pneumatic Tool Co, Columbus, Ohio
Helwig Mfg Co, St Paul, Minn
Philadelphia Pneumatic Tool Co, Philadelphia
Slocomb, F F, & Co, Wilmington, Del
(see also Riveting Machines)

Poles (Wooden)
(see Piling.)

Portable Light (see Light, Contractors').

Portable Tracks.
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Power Hammers.
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Power Transmission (Electric).
General Electric Co, Schenectady, N Y
Leffel, Jas, & Co, Springfield, O
Pelton Water Wheel Co, 134 Main st, San Francisco
Westinghouse Electric & Mfg Co, Pittsburg

Power Transmission (Rope).
Caldwell, H W, & Son Co, 17th st & Western ave, Chic
Case Mfg Co, Columbus, O
Cresson, Geo V, Co, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Jeffrey Mfg Co, Columbus, O
Link Belt Engineering Co, Nicetown, Phila

Press (Artificial Stone).
Palmer, Noyes F, 150 Snediker ave Brooklyn, N Y

Pressure Gages (Recording)
Bristol Co, Waterbury, Conn

Pressure Regulators
d'Esté, Julian, Co, 15 Canal st, Boston
Foster Engineering Co, Newark, N J
Union Water Meter Co, Worcester, Mass

Pulleys.
Case Mfg Co, Columbus, O
Dodge Mfg Co, Mishawaka, Indiana

Pulverizers (Ore and Cement).
Allis-Chalmers Co, Home Ins bldg, Chicago
Bradley Pulverizer Co, 92 State st, Boston, Mass
Clark J C, Box 325, Atlanta, Ga
Cresson, Geo V, Co, Philadelphia
Kent Mill Co, 170 Broadway, New York
Newell Mfg Co, 149 Broadway, New York
Smidth F L & Co, 66 Maiden lane, New York
West Pulverizing Machine Co, Jersey City, N J

Pumps and Pumping Machinery.
Allis-Chalmer Co, Home Ins bldg, Chicago
American Well Works, Aurora, Ill
Barr Pumping Engine Co, Philadelphia
Blake, Geo F, Mfg Co, 91 Liberty st, New York
Bonnot Co, Canton, Ohio
Cameron, A S, Steam Pump Works, New York
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Cook Well Co, St Louis
d'Auria Pumping Engine Co, 941 Drexel bldg, Phila
Davidson, M T, 52 Keap st, Brooklyn, N Y
Dean Bros' Steam Pump Works, Indianapolis, Ind
Deane Steam Pump Co, Holyoke, Mass
Deming Co, Salem, Ohio
Downie Pump Co, Downieville, Pa
Edwards, Jos, & Co, 414 Water st, New York
Epping Carpenter Co, Pittsburg
Fairbanks, Morse & Co, Chicago
Flint & Walling Mfg Co, Kendallville, Ind
Goulds Mfg Co, Seneca Falls N Y
Guild & Garrison, So 10th st, Brooklyn, N Y
Hill Machine Co, Anderson, Ind
Heister Pumping Engine Co, Erie, Pa
Knowles Steam Pump Works, 81 Liberty st, N Y
Laidlaw-Dunn-Gordon Co, Cincinnati, O
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
McGowan, John H, Co, Cincinnati, Ohio
Norwalk Iron Works Co, South Norwalk, Conn
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Quimby, Wm E, 141 Broadway, N Y
Roots, P H & F M, Co, Connersville, Ind
Scranton Steam Pump Co, 151 Franklin ave, Scranton
Snow Steam Pump Works, 120 Liberty st, New York
Southwark Foundry & Machine Works, Philadelphia
Stilwell-Bierce & Smith-Vaile Co, Dayton, Ohio
U S Wind Engine & Pump Co, Batavia, Ill
Wood, P K, 209 No Main st, Los Angeles, Cal
Wood, R D, & Co, Philadelphia
Worthington, Henry R, Brooklyn, N Y

Pumps (Air Lift).
Bacon Air Lift Co, 100 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
Pneumatic Engineering Co, 128 Broadway, N Y

Pumps (Artesian Well).
Davidson, M T, 141 Broadway, New York
Downie Pump Co, Downieville, Pa
Wood, P K, 209 No Main st, Los Angeles, Cal

Pumps (Centrifugal).
Baldwinsville (N Y) Centrifugal Pump Works
Bucyrus Co, South Milwaukee, Wis
Edwards, Jos, & Co, 414 Water st, New York
Erie Pump & Engine Co, Erie, Pa
Kingsford Foundry & Machine Works, Oswego, N Y
Lake City Engineering Co, Erie, Pa
Lawrence Machine Co, Lawrence, Mass
Morris Machine Works, Baldwinsville, N Y
Temple Pump Co, 15th Place, Chicago
Wood, R D, & Co, Philadelphia

Pumps (Diaphragm).
Boston & Lockport Block Co, 180 Commercial st, Boston
Edson Mfg Co, 255 Atlantic ave, Boston

Pumps (Electric).
Davidson, M T, 141 Broadway, New York
Deming Co, Salem, Ohio
Goulds Mfg Co, Seneca Falls, N Y
Quimby, Wm. E, 141 Broadway, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Worthington, Henry R, Brooklyn, N Y

Pumps (House Service).
Quimby, Wm E, 141 Broadway, New York

Pumps (Mining)
Davidson, M T, 141 Broadway, New York
Goulds Mfg Co, Seneca Falls, N Y
Pneumatic Engineering Co, 128 Broadway, N Y
Pulsometer Steam Pump Co, 135 Greenwich st, N Y
Snow Steam Pump Works, 120 Liberty st, New York
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, P K, 209 No Main st, Los Angeles, Cal

Punching Tools.
Pels & Co, Henry, 65-68 Broad st, New York

Pyrometers.
Bristol Co, Waterbury, Conn

Quarrying Machinery.
Flory, S, Mfg Co, Bangor, Pa
Ingersoll-Sergeant Drill Co, 26 Cortlandt st, New York
Rand Drill Co, 128 Broadway, New York
Sullivan Machinery Co, 135 Adams st, Chicago
Tyrone Foundry & Machine Co, Tyrone, Pa

Rack Railways.
Hildenbrand, Wm, 1 Broadway, New York

Rail Fastenings.
Continuous Rail Joint Co of America, Newark, N J
National Elastic Nut Co, Milwaukee
N Y Rail Insulation & Equip Co, 300 Market st, Newark
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rail Joints.
Bonzano Rail Joint Co, 22 South 15th st, Philadelphia
Continuous Rail Joint Co of America, Newark, N J
McConway & Torley Co, Pittsburg, Pa
Weber Ry Joint Mfg Co, Cotton Exch bldg, N Y

Rails (Relaying).
Donaldson & Newton, 421 Chestnut st, Philadelphia
Grant & Harper Machy Co, Park Row bldg, New York
Hyde Bros, 902 Lewis bldg, Pittsburg
Johnson, Chas F, 908 Ellicott square, Buffalo
Robinson & Orr, 419 Wood st, Pittsburg
Tallon, C J, 308 Market st, San Francisco

Rails (Steel).
Baumgarten & Bro, A F, Pittsburg, Pa
Buffalo Steel Co, Tonawanda, N Y
General Supply & Const'n Co, 8-10 Bridge st, N Y
Koppel, Arthur, 68 Broad st, New York
Pennsylvania Steel Co, Steelton, Pa

Railway Equipment (Dealers).
Apex Equipment Co, 11 Broadway, New York
Fitz-Hugh & Co, Monadnock bldg, Chicago
Low, Edgar S, Co, Empire bldg, Pittsburg
Males Co, Ætna bldg, Cincinnati
Shannon, J Jacob, & Co, 1744 Market st, Philadelphia
Watson, Benjamin, 66 Beaver st, New York

Railway Signals (Pneumatic)
Pneumatic Signal Co, Broad-Exchange bldg, N Y

Railway Ties.
American Creosote Works, Ltd, New Orleans La
New Orleans Wood Preserving Works, New Orleans
Vanderbilt & Hopkins, 126 Liberty st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Railway Track Specialties.
Diamond State Steel Co, Wilmington, De
N Y Switch & Crossing Co, Hoboken, N J
Railroad Supply Co, Bedford bldg, Chicago
Ramapo Iron Works, Hillburn, N Y
Weir Frog Co, Cincinnati, Ohio

Railways (Industrial).
Koppel, Arthur, 68 Broad st, New York
Wonham-Magor Eng. Wks, 29 Broadway, New York

Riveting Machines.
Albree, Chester B, 14-30 Market st, Allegheny, Pa
Allen, John P, 370 Gerard ave, New York
General Pneumatic Tool Co, Montour Falls, N Y
Manning, Maxwell & Moore, 85 Liberty st, New York
Rand Drill Co, 128 Broadway, New York
Wood, R D, & Co, 400 Chestnut st, Philadelphia Pa
(see also Pneumatic Tools.)

Road Rollers and Machinery.
Acme Road Machinery Co, Frankfort, N Y
Austin Mfg Co, F C, Harvey, Ill
Buffalo Pitts Steam Roller Works, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Erie Machine Shops, Erie, Pa
Goods Roads Machinery Co, Kennett Square, Pa
Harrisburg Foundry & Mach Co, Harrisburg, Pa
Heisler, Chas L, Erie, Pa
Huber Mfg Co, Marion, Ohio
Iroquois Iron Works, 178 Walden ave, Buffalo, N Y
Kelly-Springfield Road Roller Co, Springfield, O
Port Huron Engine Co, Port Huron, Mich
Scholl, Julian, & Co, 126 Liberty st, New York
Stuart Grader Co, Oberlin, O
Western Wheeled Scraper Co, Aurora, Ill

Rock and Ore Crushers.
Acme Road Machinery Co, Frankfort, N Y
Allis-Chalmers Co Home Ins bldg, Chicago
Austin Mfg Co, F C, Harvey, Ill
Aultman Co, Canton, Ohio
Bradley Pulverizer Co, 92 State st, Boston, Mass
Climax Road Machine Co, Marathon, N Y
Cresson Co, Geo V, Philadelphia
Farrel Foundry & Machine Co, 26 Cortlandt st, N Y
Good Roads Machinery Co, Kennett Square, Pa
Scholl, Julian, & Co, 126 Liberty st, New York
Smidth, F L & Co, 66 Maiden lane, New York
Sturtevant Mill Co, 108 Clayton st, Boston
Tyrone Foundry & Machine Co, Tyrone, Pa
Western Wheeled Scraper Co, Aurora, Ill

Rock Drills.
American Diamond Rock Drill Co, 95 Liberty st, N Y
Davis Calyx Drill Co, 128 Broadway, New York
Ingersoll-Sergeant Drill Co, Havemeyer bldg, N Y
McKiernan Drill Co, 170 Liberty st, N Y
Rand Drill Co, 128 Broadway, New York
Rogers, John M, Gloucester City, N J
Sullivan Machinery Co, 135 Adams st, Chicago, Ill
Wood Drill Works, 30 Dale ave, Paterson, N J

Rolling Doors, Partitions, etc. (Steel).
Kinnear Mfg Co, Columbus, Ohio
Wilson, J G, 3 W 29th St, New York

Roofing.
Standard Paint Co, 103 William st, New York

Roofing (Corrugated).
Garry Iron & Steel Co, Coe and Lake sts, Cleveland
Scalfe, W B, & Sons Co, Pittsburg

Rope (Manila).
Dodge Mfg Co, Mishawaka, Indiana
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Smith, S Morgan, Co, York, Pa

Scales (Weighing).
Fairbanks, Morse & Co, Chicago
Richardson Scale Co, 13 Park Row, New York

Schools (Correspondence).
Am. School at Armour Inst. of Tech. Chicago
Penn. Corres. Schools, Hamilton bldg, Pittsburg
(For Directory of Engineering Schools see p. 4.)

Scrapers and Plows.
Austin Mfg Co, Manhattan bldg, Chicago
Contractors' Plant Mfg Co, Buffalo, N Y
Climax Road Machine Co, Marathon, N Y
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Stuart Scraper Co, Oberlin, O
Smith & Sons Mfg Co, Kansas City, Mo
Syracuse Chilled Plow Co, Syracuse, N Y
Western Wheeled Scraper Co, Aurora, Ill

Screens (Stone and Sand).
Allis-Chalmers Co, Home Ins bldg, Chicago
Aultman Co, Canton, O
Climax Road Machine Co, Marathon, N Y
Harrington & King Perforating Co, Chicago, Ill
Taylor Iron & Steel Co, High Bridge, N J

Screens (Water-Works).
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Seamless Drawn Tanks and Tubes.
National Tube Co, Pittsburg

Separators (Oil and Steam).
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Robertson, Jas L, & Sons, 192 Fulton st, New York

Sewage Disposal.
Cameron Septic Tank Co Monadnock block, Chicago

Sewer Braces.
Dunn Mfg Co, Pittsburg, Pa
Potter Mfg Co, 2010 N W ave, Indianapolis, Ind

Sewer and Street Castings.
Sessions Foundry Co, Bristol, Conn
(see also Castings, Iron.)

Sewer Pipe (see Pipe, Vitrified)

Shafting.
Case Mfg Co, Columbus, O
Cresson, Geo V, Philadelphia
Dodge Mfg Co, Mishawaka, Indiana
Poole, Robt, & Son Co, Baltimore, Md

Sheet Iron Work.
Am Sheet Steel Co, Battery Park bldg, New York
Petroleum Iron Works Co, Washington, Pa
Scalfe, Wm B, & Sons Co, Pittsburg

Sheet Steel.
Am Sheet Steel Co, Battery Park bldg, New York
American Steel & Wire Co, New York & Chicago

Shutters (Fire Proof).
Kinnear Mfg Co, Columbus, Ohio

Skylights.
National Skylight & Const'n Co, 120 Liberty st, N Y
Plenty, Josephus, Jersey City, N J
Valle & Young, Baltimore, Md

Sluice Gates.
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y

Smoke Stacks (see Stand-Pipes and Tanks).

Speed Governors.
Foster Engineering Co, Newark, N J

Stamp Mills.
Allis-Chalmers Co, Home Ins bldg, Chicago

Stand-Pipes and Tanks.
Caldwell, W E, Co, 200 East Main st, Louisville, Ky
Chicago Bridge & Iron Co, Chicago
Columbiana Boiler Co, Columbiana, O
Du Bois Iron Works, Du Bois, Pa
Enterprise Boiler Co, Youngstown, O
Gem City Boiler Co, Dayton, O
Girard Boiler & Mfg Co, Girard, O
Hodge Boiler Co, East Boston, Mass
Keeler, E, Co, Williamsport, Pa
King Bridge Co, Cleveland, O
Means & Fulton Iron Works, Birmingham, Ala
North Penn Iron Co, 3d and Sedgley ave, Phila
Petroleum Iron Works Co, Washington, Pa
Riter-Conley Mfg Co, Pittsburg, Pa
Scalfe, Wm B, & Sons Co, Pittsburg
Sharon Boiler Works, Sharon, Pa
Smith, Theo, & Sons Co, Jersey City, N J
Snow, T W, 360 Dearborn st, Chicago
Strutners-Wells Co, Warren, Pa
Tallerday Steel Pipe & Tank Co, Waterloo, Ia
Tippett & Wood, Phillipsburg, N J
U S Wind Engine & Pump Co, Batavia, Ill
Walsh, W J, Holyoke, Mass
Warren City Tank & Boiler Works, Warren, O
Wood, R D & Co, Philadelphia, Pa

Steam Shovels.
Austin, Mfg Co, Manhattan bldg, Chicago
Beatty, M, & Sons, Welland, Ont
Bucyrus Co, South Milwaukee, Wis
Hunt, C W, Co, Richmond Terrace, W N Brighton, NY
Marion Steam Shovel Co, Marion, O
Mead, John A, & Co, 7 Broadway, New York
Osgood Dredge Co, Albany, N Y
Souther, John, & Co, Boston, Mass
Thew Automatic Shovel Co, Lorain, O
Toledo Foundry & Machine Co, Toledo, O
Vulcan Iron Works Co, Toledo

Steam Specialties.
American District Steam Co, Lockport, N Y
Crane Co, Chicago, Ill
Darling Pump & Mfg Co, Box E, Williamsport, Pa
d'Esté, Julian, Co, 15 Canal st, Boston
Harrison Safety Boiler Wks, 3166 N 17th st, Phila
Lunkenheimer Co, Cincinnati, O
Manning, Maxwell & Moore, 85 Liberty st, New York
Robertson, Jas L, & Sons, 192 Fulton st, New York
Union Steam Spec. Co, 151 Franklin ave, Scranton, Pa
(see also Separators, Oil and Steam.)

Steam Traps.
American Blower Co, Detroit, Mich
Buffalo Forge Co, Buffalo, N Y
Crane Co, Chicago, Ill
d'Esté, Julian, Co, 15 Canal st, Boston
Sturtevant, B F, Co, Boston, Mass

Steel Clips.
Streeter, H A 35 Indiana st, Chicago

Steel Flanges (Weldless).
Latrobe Steel Co, Girard bldg, Philadelphia

Steel Ties.
Koppel, Arthur, 68 Broad st, New York

Stone.
Bound Brook (N J) Crushed Stone Co
Leopold, J, & Co, 18 Broadway, New York
Thiel, August, Guttenberg, N J
Tomkins, Calvin, 130 Liberty st, New York

Street Railway Supplies.
Brill, J G, Co, Philadelphia, Pa

Street Sprinklers and Sweepers
Austin, F C, Mfg Co, Harvey, Ill
Brill, J G, Co, Philadelphia, Pa
Edson Mfg Co, 255 Atlantic ave, Boston
Good Roads Machinery Co Kennett Square, Pa

Structural Steel and Iron Work.
Berlin Construction Co, Berlin, Conn
Brooks, T H, & Co, Cleveland, O
Eichleay, John, Jr, Co, Pittsburg
General Supply & Const'n Co, 8-10 Bridge st, N Y
Kratzer, W N, & Co, 3218 Smallman st, Pittsburg
Link Belt Engineering Co, Nicetown, Phila
Means & Fulton Iron Works, Birmingham, Ala
National Skylight & Const'n Co, 120 Liberty st, N Y
N J Foundry & Machine Co, 9 Murray st, N Y
North Penn Iron Co, 3d and Sedgley ave, Phila
Pedrick, E K, Co, 120 Liberty st, New York
Schreiber, L, & Sons Co, Cincinnati, O
Sharon Boiler Works, Sharon, Pa
Snare & Triest, 39 Cortlandt st, New York
Snead & Co Iron Works, ft of Pine st, Jersey City, N J
Streeter, H A, 35 Indiana st, Chicago
Tippett & Wood, Phillipsburg, N J
Walton Iron Co, Cincinnati
(see also Bridges and Buildings.)

Stump Pulling Machine.
Milne Mfg Co, 804 Eighth st, Monmouth, Ill

Submarine Armor (see Diving Apparatus).

Tacks, Thumb
Albrecht, C R, 62 Fulton st, New York

Tanks.
Berquist, A S, 515 Bedford ave, Brooklyn, N Y
Hodge Boiler Works, East Boston, Mass
Pacific Tank Co, Los Angeles, Cal
Riter-Conley Mfg Co, Pittsburg, Pa
Scalfe, W B, & Sons, Pittsburg
Steel Storage Elevator & Const'n Co, Buffalo, N Y
Warren City Tank & Boiler Works, Warren, O
(see also Stand Pipes and Tanks.)

Tapes (Steel). See Measuring Tapes.

Tapping Machines (Pipe).
Smith, Anthony P, Mfg Co, Newark, N J

Tents.
Murray & Co, 329 S Canal st, Chicago

Test Borings (see Artesian Wells).

Testing Laboratories (see Laboratories).

Testing Machines.
Falkenau-Sinclair Machine Co, 109 N 22 st, Phila
Riehle Bros Test & Mach Co, 1424 N 9th st, Phila

Thermometers (Recording).
Bristol Co Waterbury, Conn

Tie Plates.
Diamond State Steel Co, Wilmington, Del
Railroad Supply Co, Bedford bldg, Chicago

Ties
Koppel, Arthur, 68 Broad st, New York
Wyckoff Pipe & Creosoting Co, Portsmouth, Va

Time and Cost Keeping.
Industrial Time & Cost Keep. System, Bantam, Conn

Time Detectors.
Am Watchmen's Time Detector Co, 234 B'way, N Y
Imhauser, E, & Co, 206 Broadway, New York

Tracing Cloth.
Alve, A S, Co, 414 North Broadway, St Louis
Favor, Ruhl & Co, 5d Park Place, N Y
Hardtmuth, L & C, 49 Barclay st, New York
(see also Instruments, Engineering, etc.)

Transformers.
General Electric Co, Schenectady, N Y

Trench Machines.
Carson Trench Machine Co, Boston, Mass
Potter Mfg Co, 2010 N W ave Indianapolis, Ind

Tubing (Flexible Metallic).
Moore, Chas C, & Co, 32 First st, San Francisco

Turbines.
Camden Water-Wheel Wks, Camden, New York
Dayton Globe Iron Works Co, 7 Ludlow st, Dayton, O
Leffel, Jas, & Co, Springfield, O
Poole, Robert, & Son Co, Baltimore Md
Risdon-Alcott Turbine Co, Mt Holly, N J
Smith, S Morgan Co, York, Pa
Stilwell-Bierce & Smith-Vaile Co, Dayton, O
Wood, R D, & Co, Philadelphia, Pa

Turnbuckles.
Cleveland City Forge & Iron Co, Cleveland
Merrill Bros, 467 Kent ave, Brooklyn, N Y

Turntables.
American Bridge Co, New York
Boston Bridge Works, 47 Winter st, Boston, Mass
Chicago Bridge & Iron Co, Chicago
Columbia Bridge Co, Pittsburg
Fort Pitt Bridge Works, Pittsburg, Pa
Hunt, C W, Co, Richm'd Terrace, W N Brighton, N Y
King Bridge Co, Cleveland, O
Koppel, Arthur, 68 Broad st, New York
McClintic-Marshall Construction Co, Pottstown, Pa
Mo Valley Bridge & Iron Wks, Leavenworth, Kan
Mount Vernon Bridge Works, Mount Vernon, O
Passaic Steel Co, Paterson, N J
Philadelphia Bridge Works, Pottstown, Pa
Phoenix Bridge Co, 1321 Arch st, Philadelphia
Virginia Bridge & Iron Co, Roanoke, Va
Wonham-Magor Eng. Wks, 29 Broadway, New York

Valve Boxes.
Cayuta Wheel & Foundry Co, Sayre, Pa
Clow, J B, & Sons, Lake and Franklin sts, Chicago
Drummond, M J, & Co, 192 Broadway, N Y

Valves.
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Darling Pump & Mfg Co, Box E, Williamsport, Pa
(see also Hydrants and Valves.)

Valves (Gas).
Campbell, J B, Brass Works, Cascade st, Erie, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Ludlow Valve Mfg Co, Troy, N Y
Roots, P H & F M, Co, Connersville, Ind

Valves (Gate).
Cayuta Wheel & Foundry Co, Sayre, Pa
Coffin Valve Co, Boston, Mass
Coldwell-Wilcox Co, Newburg, N Y
Crane Co, Chicago, Ill
Millar, Chas, & Son Co, Utica, N Y
Walworth Mfg Co, Boston, Mass
Wood, R D, & Co, Philadelphia, Pa

Valves (Pressure Regulating).
Ross Valve Co, Troy, N Y
(see also Pressure Regulators.)

Valves (Steam).
Cayuta Wheel & Foundry Co, Sayre, Pa
Chapman Valve Mfg Co, Indian Orchard, Mass
Crane Co, Chicago, Ill
Crosby Steam Gage & Valve Co, Boston
Ludlow Valve Mfg Co, Troy, N Y
Lukenheimer Co, Cincinnati, O

Valves (Stop).
Foster Engineering Co, Newark, N J
Reading Foundry Co, Ltd, Reading, Pa
Thompson, J, & Co, Philadelphia

Varnish and Colors.
(see Paints.)

Vault Lights.
Brooks, T H, Cleveland, Ohio
Tucker & Vinton, 156 Fifth ave, New York

Ventilators.
Buffalo Forge Co, Buffalo, N Y
Merchant & Co, Inc, Philadelphia, Pa

Vises (Parallel).
Merrill Bros, 467 Kent ave, Brooklyn

Wagons and Carts.
Auburn Wagon Co, Martinsburg, W. Va
Austin, F C, Mfg Co, Harvey, Ill
Climax Road Machine Co, Marathon, N Y
Columbia Wagon Co., Columbia, Pa
Good Roads Machinery Co, Kennett Square, Pa
National Drill & Mfg Co, 159 La Salle st, Chicago
Port Huron Engine Co, Port Huron, Mich
U S Sanitary Co, Washington, D C
Watson Wagon Co, Canastota, N Y
Western Wheeled Scraper Co, Aurora, Ill

Water Motors.
Backus Water Motor Co, Newark, N J

Water Softening Plants.
Industrial Water Co, 126 Liberty st, New York
Kennicott Water Soft Co, 406 Great North. bldg, Chic
N Y Continental Jewell Filtration Co, 15 Broad st, N Y
Patterson, D W, Harrison bldg, Philadelphia, Pa
Pittsburg Filter Mfg Co, Pittsburg

Water Storage Systems.
Acme Water Stor & Const'n Co, Park Row bldg, N Y

Water Wheel Governors.
(see Governors, Water-Wheel.)

Water Wheels.
Cassel Auto Water Motor Co, Seattle, Wash
Doble, Abner, Co, Fremont & Howard, San Francisco
Pelton Water Wheel Co, 134 Main st, San Francisco
(see also Turbines.)

Water-Works Tools and Supplies.
Flint & Walling Mfg Co, Kendallville, Ind
Smith, A P, Mfg Co. Newark, N J

Well Drilling Machinery.
American Well Works, Aurora, Ill
Cook Well Co, St Louis, Mo
Star Drilling Machine Co, 104 Fulton st, New York
Williams Bros, Ithaca, N Y

Wharf and Pier Builders.
Atlantic, Gulf & Pacific Co, 13-21 Park Row, N Y
McMullen, Arthur, & Co, 13-21 Park Row, New York
O'Rourke, John F, Park Row bldg, N Y
Phoenix Bridge Co, Phoenixville, Pa
San Francisco Bridge Co, 220 Market st, San Francisco

Wheelbarrows.
Cockburn Barrow & Machine Co, Jersey City, N J
Syracuse Chilled Plow Co, Syracuse, N Y
Steubner, G L, Long Island City, N Y
Western Wheeled Scraper Co, Aurora, Ill

Whistles.
Crosby Steam Gage & Valve Co, Boston
Lunkenheimer Co, Cincinnati, O

Windmills.
Flint & Walling Mfg Co, Kendallville, Ind
Temple Pump Co, 15th Place, Chicago
U S Wind Engine & Pump Co, Batavia, Ill

Wire, Wire Rope and Cables.
American Steel & Wire Co, New York & Chicago
Broderick & Bascom Rope Co, St Louis
Leschen, A, & Sons Rope Co, St Louis
Macomber & Whyte Rope Co, 21 S Canal st, Chicago
Roebling's, John A, Sons Co, Trenton, N J
Trenton Iron Co, Trenton, N J
Williamsport Wire Rope Co, Williamsport, Pa

Worm Gearing.
Morse, Williams & Co, Philadelphia, Pa

Wire Fence (see Fencing).

Wood Preserving (see Creosoting).

Wrenches.
Keystone Drop Forge Wks, 20th & Clearfield sts, Phila

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